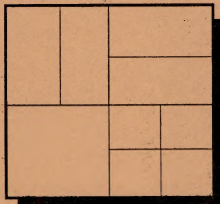




DRAFT

BLM Glossary of Terms and Acronyms



Bureau of Land Management
Branch of Cadastral Survey Development
Service Center
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BLM Glossary of Terms- Acronyms

A

A (Land Status Records) - Acre(s).
ABC - Airborne Control.
ACIC - Aeronautical Chart and Information Center.
ACQ (Land Status Records) - Acquired.
ACSM - American Congress on Surveying and Mapping.
ACT OF CONG (Land Status Records) - Act of Congress.
ADHE (Land Status Records) - Adjusted homestead entry.
ADM S (Land Status Records) - Administrative site.
ADP - Automatic Data Processing.
A&E - Architect and Engineer.
AEC (Land Status Records) - Atomic Energy Commission.
AEI - Aerial Exposure Index.
AF (Land Status Records) - Air Force.
AGRI (Land Status Records) - Agriculture, Agricultural.
AGRI EXP STA (Land Status Records) - Agriculture Experiment Station.
AHA (Land Status Records) - Alaska House Authority.
AHE (Land Status Records) - Additional homestead entry.
AK - Alaska.
AL - Alabama.
ALA - Alabama.
ALL MIN (Land Status Records) - All Minerals.
ALLOT (Land Status Records) - Allotment.
ALS PS (Land Status Records) - Alaska Public Sale.
AM - Amended Monument.
AMC - Auxiliary Meander Corner.
AMS - Above Mean Sea Level.
A&M COL (Land Status Records) - Agriculture and Mechanical College.
AMDT (Land Status Records) - Amendment, Amended, Amends.
AMT - Above Mean Terrain.
ANCSA - Alaska Native Claims Settlement Act.
ANS (Land Status Records) - Air Navigation Site.
AP - Angle point also AP-1, AP-2 etc.
APLN (Land Status Records) - Application.
APLN EXT (Land Status Records) - Application for extension.
APP (Land Status Records) - Appendix.
APPROP (Land Status Records) - Appropriation, Appropriate, Appropriated.
APVVD (Land Status Records) - Approved.
AR - Arkansas.
AREA ADM O (Land Status Records) - Area Administrator Order(s).
ARIZ - Arizona.
ARK - Arkansas.
ARPT (Land Status Records) - Airport.
ARRCS (Land Status Records) - Alaska Rural Rehabilitation Corp. Sale.
ASA - American Standards Association.
ASCE - American Society of Civil Engineers.
ASGN (Land Status Records) - Assignment.
ASPH (Land Status Records) - Asphalt.
ASRHE (Land Status Records) - Additional stock raising homestead entry.
AUTH (Land Status Records) - Authorization.
AVE LSE (Land Status Records) - Aviation lease.
AZ - Arizona.

B

BAL (Land Status Records) - Balance.
BDY; BDRS (Land Status Records) - Boundary, Boundaries.
BEN (Land Status Records) - Bentonite.
BH MER (Land Status Records) - Black Hills Meridian
B/H-Base to height ratio.
BIA (Land Status Records) - Bureau of Indian Affairs.
BIFC - Boise Interagency Fire Center.
BLK (Land Status Records) - Block.
BLM (Land Status Records) - Bureau of Land Management.
BLM-M (Land Status Records) - Bureau of Land Management Manual.
BM (Land Status Records) - Bench Mark.
BM - Erroneously for Boise Meridian.

BO - Bearing Object.
BOISE MER (Land Status Records) - Boise Meridian.
BR - Bearing Rock. An obsolete corner marking for a bearing object used on mineral surveys.
BR (Land Status Records) - Bureau of Reclamation.
BSFW (Land Status Records) - Bureau of Sports, Fisheries and Wildlife. Now, 1976, U.S. Fish and Wildlife Services, 1976.
BT - Bearing Tree.

C

CA (Land Status Records) - Communitization Agreement.
CA - California.
CAD (Land Status Records) - Cadastral.
CALIF.- California.
CANC (Land Status Records) - Cancellation, Canceled.
CBWR (Land Status Records) - Coos Bay Wagon Road.
CC (Land Status Records) - Cash certificate.
CC - Closing Corner.
CDI (Land Status Records) - Control Document Index.
CDS (Land Status Records) - Coal declaratory statement.
CE (Land Status Records) - Cash entry.
CERT (Land Status Records) - Certificate.
CFR (Land Status Records) - Code of Federal Regulation.
C&GS - (United States) Coast and Geodetic Survey.
CH, CHS (Land Status Records) - Chain, Chains.
CHE (Land Status Records) - Commuted homestead entry.
CHG (Land Status Records) - Change.
CHIC MER (Land Status Records) - Chickasaw Meridian.
CHOC MER (Land Status Records) - Choctaw Meridian
CIM MER (Land Status Records) - Cimarron Meridian
CIRC (Land Status Records) - Circular.
CL - Centerline.
C/L (Land Status Records) - Commissioner of Lands.
CL (Land Status Records) - Classification.
CO (Land Status Records) - Company.
CO - Colorado, Colo.
C of E (Land Status Records) - Corp of Engineers.
COLO. - Colorado.
COMM P (Land Status Records) - Community Pit.
COMM S (Land Status Records) - Communication Site.
CONDEMN (Land Status Records) - Condemnation.
CORP (Land Status Records) - Corporation.
CPG (Land Status Records) - Campground.
CRE (Land Status Records) - Credit entry.
CR MER (Land Status Records) - Copper River Meridian.
CR PER (Land Status Records) - Crossing Permit.
C/T (Land Status Records) - Color of Title.
CT - Connecticut.
CUR PAT (Land Status Records) - Curative patent.
CWS - Community watershed.
CRT - Cathode ray tube.

D

D (Land Status Records) - Director.
DC - District of Columbia.
DC (Land Status Records) - Donation claim. See DONATION LAND CLAIM.
DDB - Directives Digest Bulletin.
DE - Delaware.
DED (Land Status Records) - Dedication.
DEF (Land Status Records) - Deficiency.
DEP - Departure (of a traverse).
DEPT OF AGRI (Land Status Records) - Department of Agriculture.
DEPT OF INT (Land Status Records) - Department of the Interior.
DES (Land Status Records) - Designated or Designation.
DET (Land Status Records) - Determination.
DI-10 - A brand name of electronic measurement equipment.
DLC - Donation Land Claim.
DLE (Land Status Records) - Desert Land Entry.
DM (Land Status Records) - District Manager.

DMD - Double meridian distance.
DOC (Land Status Records) - Document.
DOC (Land Status Records) - Ditches and/or Canal.
DPD - Double parallel distance.
DSC - Denver Service Center.

E

E (Land Status Records) - East.
EC STATION - 1) Extended control stations 2) Electronic control station
EDM - Electronic Distance Measurement.
EDP - Electronic Data Processing.
EFF (Land Status Records) - Effective
EG - An abbreviation of "exempli gratia" which means: For the sake of an example.
EHE (Land Status Records) - Enlarged homestead entry.
ELIM (Land Status Records) - Elimination.
ENLGMT (Land Status Records) - Enlargement.
ESNA - Electrical Survey Net Adjuster.
EO (Land Status Records) - Executive Order.
ES (Land Status Records) - Exchange survey.
ESLO - Eastern States Land Office. The Eastern States Land Office is in Silver Springs, Maryland. (Now designated Eastern States Office, ESO)
ESMT (Land Status Records) - Easement.

F

F.2d - In a citation, as 22 F.2d 100, means Federal Reporter, Second Series.
FAA (Land Status Records) - Federal Aviation Administration.
FBX MER (Land Status Records) - Fairbanks Meridian.
FC (Land Status Records) - Final Certificate.
FED (Land Status Records) - Federal.
FED - Federal. If shown as a citation (198 Fed. 125 (1912)), it means "Federal Reporter."
FF LSE (Land Status Records) - Fur farm lease.
FFMC (Land Status Records) - Federal Farm Mortgage Corporation.
FHA (Land Status Records) - Farmers Home Administration.
FIS (Land Status Records) - Fissionable materials.
FL - Florida.
FLA - Florida.
FLS (Land Status Records) - Forest lieu selection.
FLOP - Free land use permit.
FM U (Land Status Records) - Farm unit.
FPA (Land Status Records) - Federal Power Act.
FPAS ACT - The Federal Property and Administrative Services Act of 1949, as amended, sets forth the basic contracting procedures and principles which all civilian agencies must follow.
FPC (Land Status Records) - Federal Power Commission.
FPR - Federal Procurement Regulations.
FR (Land Status Records) - Federal Register.
FRAC (Land Status Records) - Fractional.
FRAC INT PAT (Land Status Records) - Fractional Interest Patent.
FS (Land Status Records) - Forest Service.
F SUPP - Federal Supplement.
FUP (Land Status Records) - Free use permit.
F&WS (Land Status Records) - Fish and Wildlife Service.
FX (Land Status Records) - Forest Exchange.

G

GA - Georgia.
GAT - Greenwich Apparent Time.
GCT - Greenwich Civil Time.
GD (Land Status Records) - Gold.
GEO (Land Status Records) - Geothermal.
GEOL STR (Land Status Records) - Geologic structure.
GHA - Greenwich Hour Angle.
GLO (Land Status Records) - General Land Office.
GMT - Greenwich Mean Time.
GR DIST (Land Status Records) - Grazing District.
GR LIC (Land Status Records) - Grazing license.

GR LSE (Land Status Records) - Grazing lease.
GR PER (Land Status Records) - Grazing permit.
GSR MER (Land Status Records) - Gila and Salt River Meridian.

H

HB - Handbook. If in a citation, it means "Horse Bill."
HDQ S (Land Status Records) - Headquarters Site
HDS (Land Status Records) - Homestead declaratory statement.
HE (Land Status Records) - Homestead entry.
HES (Land Status Records) - Homestead entry survey.
HI - Hawaii.
HI (Land Status Records) - Historical Index.
HI - Height of Instrument.
HUM MER (Land Status Records) - Humboldt Meridian.
HUNTS MER (Land Status Records) - Huntsville Meridian.
HWY (Land Status Records) - Highway.

I

IA - Iowa.
IA (Land Status Records) - Indian Allotment.
IAS - Indian Allotment Survey.
IBID. - An abbreviation for "ibidem," a Latin term meaning "in the same place," "in the same book," "on the same page," etc. It usually refers to an immediately preceding citation with an identical page reference.
IBLA - Interior Board of Land Appeals. See BOARD OF LAND APPEALS.
IC (Land Status Records) - Interim Conveyance.
I D. - Abbreviation for "idem," a Latin term meaning "the same." It indicates an immediately preceding citation but a different page reference. See IBID.
ID - Idaho.
ID (Land Status Records) - Interior Decisions.
IDEN (Land Status Records) - Identify Identification.
ID EST - That is. Commonly abbreviated "i.e."
IE - That is. The common abbreviation for the Latin "id est."
IL - Illinois.
IL (Land Status Records) - Indemnity list.
ILL - Illinois.
INC (Land Status Records) - Including, Inclusive.
IN - Indiana.
IND - Indiana.
IND FEE (Land Status Records) - Indian Fee.
IND HD TR PAT (Land Status Records) - Indian homestead trust patent.
IND MER (Land Status Records) - Indian Meridian.
IND RES (Land Status Records) - Indian Reservation.
IND TR (Land Status Records) - Indian Trust.
INTPR (Land Status Records) - Interpretation.
IPS - Iron Pipe Size. Also plural for Iron Post.
IS (Land Status Records) - Indemnity selection.
IT (Land Status Records) - Isolated tract.

K

KAN - Kansas.
KCLA (Land Status Records) - Known Coal Leasing Area.
KGRA (Land Status Records) - Known Geothermal Resource Area.
KGS (Land Status Records) - Known Geologic Structure.
KLA (Land Status Records) - Known Leasing Area.
KR MER (Land Status Records) - Kateel River Meridian.
KS - Kansas.
KY - Kentucky.

L

LA - Louisiana.
LA MER (Land Status Records) - Louisiana Meridian.
LAT (Land Status Records) - Latitude.
LCR - Lower Colorado River.
LD (Land Status Records) - Interior Land Decisions.
LH (Land Status Records) - Light House.
LIC (Land Status Records) - License.

LM - See UNITED STATES LOCATION MONUMENT.
LO (Land Status Records) - Land Office.
LOC (Land Status Records) - Location.
LONG (Land Status Records) - Longitude.
L&R - Division of Lands and Recreation.
LS - Land Surveyor.
LS (Land Status Records) - Lieu selection.
LSBL (Land Status Records) - Leasable.
LSE (Land Status Records) - Lease.
LTR (Land Status Records) - Letter.
LU (Land Status Records) - Land Utilization.

M

M - Mile, as marked on monuments and/or accessories.
ME (Land Status Records) - Mineral Entry.
MER (Land Status Records) - Meridian.
m - meter
MES - Mineral Entry Survey.
MA - Massachusetts.
MGMT (Land Status Records) - Management.
MAT S (Land Status Records) - Material site.
MI - Michigan.
M&B (Land Status Records) - Metes and Bounds.
MICH - Michigan.
MC - Meander Corner.
MICH MER (Land Status Records) - Michigan Meridian.
MC (Land Status Records) - Mineral Certificate; Also Min Cert.
MIL PUR (Land Status Records) - Military Purpose.
MCOA or MOA (Land Status Records) - Mining Claim Occupancy Act.
MIL RES (Land Status Records) - Military Reservation.
MD - Maryland.
MIL RG (Land Status Records) - Military Road Grant.
MD MER (Land Status Records) - Mount Diablo Meridian.
MIL WRG (Land Status Records) - Military Wagon Road Grant.
ME - Maine.
MILL S (Land Status Records) - Millsite.
MIN (Land Status Records) - Mineral.
MIN CERT or MC (Land Status Records) - Mineral certificate.
MINN- Minnesota.
MISC (Land Status Records) - Miscellaneous.
MISS - Mississippi.
ML (Land Status Records) - Mineral location.
MLCI (Land Status Records) - Mineral Location and Contest Index.
MM (Land Status Records) - Mineral Monument.
MN - Minnesota.
MO - Missouri.
MOA (Land Status Records) - Mining Claim Occupancy Act.
MOD (Land Status Records) - Modification.
MON (Land Status Records) - Monument.
MONT - Montana.
MONT PRIN MER (Land Status Records) - Montana Principal Meridian. See PRINCIPAL MERIDIAN, MONTANA.
MAP FACTOR - Meridian and Parallel Factors. See M and P Factor (below).
MS - Mineral Survey. As used in field notes.
MS - Mississippi.
MS (Land Status Records) - Mineral Survey.
MT - Montana.
MTN (Land Status Records) - Mountain.
MTP (Land Status Records) - Master Title Plat.
MULT USE (Land Status Records) - Multiple Use.

N

N (Land Status Records) - North.
N DAK - North Dakota.
N MEX - New Mexico.
N MEX PRIN MER (Land Status Records) - New Mexico Principal Meridian.
N MON (Land Status Records) - National Monument.
NA (Land Status Records) - Native Allotment.
NAV MER (Land Status Records) - Navajo Meridian.

NB - Nebraska.
 NC - North Carolina.
 nc (Land Status Records) - Noncompetitive.
 ND - North Dakota.
 NM - New Mexico.
 NE (Land Status Records) - Northeast.
 NEB - Nebraska.
 NEPA - National Environmental Policy Act of 1969. The Act of Congress of January 1, 1970, Public Law 91-190, 83 Stat. 852, 42 U.S.C. 4321, et seq.
 NEV - Nevada.
 NF (Land Status Records) - National Forest.
 NG SEL (Land Status Records) - Native Group Selection.
 NGS - National Geodetic Survey.
 NH - New Hampshire.
 NIT (Land Status Records) - Nitrate.
 NJ - New Jersey.
 NMAS - United States National Map Accuracy Standards.
 NMPM (Private Practice of Surveying) - New Mexico Principle Meridian.
 NP (Land Status Records) - National Park.
 NOAA - National Oceanic and Atmospheric Administration.
 NOE (Land Status Records) - Not Open to Entry.
 NOL (Land Status Records) - Not Open to Lease.
 NOM (Land Status Records) - Not Open to Mining.
 NOS - National Ocean Survey.
 NPPR (Land Status Records) - Native Primary Place of Residence.
 NPS - National Park Service.
 NRL (Land Status Records) - National Resource Lands.
 NV - Nevada.
 NW (Land Status Records) - Northwest.
 NWR (Land Status Records) - National Wildlife Refuge.
 NY - New York.

O

O - Ohio.
 O (Land Status Records) - Order.
 OAS - Office of Aircraft Services.
 OCS - Outer Continental Shelf.
 OGC (Land Status Records) - Oregon and California (revested lands).
 OE (Land Status Records) - Open to Entry.
 OG (Land Status Records) - Oil and Gas.
 OK - Oklahoma.
 OKLA - Oklahoma.
 OPER (Land Status Records) - Operation.
 OR - Oregon.
 ORE - Oregon.
 OS (Land Status Records) - Oil Shale.

P

P - Property Line.
 PA - Pennsylvania.
 PAR (Land Status Records) - Parcel.
 PAT (Land Status Records) - Patent.
 PART (Land Status Records) - Partially.
 PC - Point of curve.
 PCC - Point of Compound Curve.
 PCS - Point of Curve to Spiral.
 PCCS - Public Land Survey Coordinate Computation System
 PD (Land Status Records) - Public Domain.
 PE - Professional Engineer.
 PE and LS - Professional Engineer and Land Surveyor.
 PER (Land Status Records) - Permit.
 PET RES (Land Status Records) - Petroleum Reserve.
 PHO (Land Status Records) - Phosphate.
 PI - In highway surveying, Point of Intersection of two tangents.
 PL (Land Status Records) - Public Law.
 PLC (Land Status Records) - Private land claim.
 PLO (Land Status Records) - Public Land Order.
 POL - Point on line.

POST - In highway surveying, Point on semi tangent.
 POT (Land Status Records) - Potassium.
 POT - In highway surveys, Point on Tangent.
 PPB (Land Status Records) - Primary Place of Business.
 PR PER (Land Status Records) - Prospecting permit.
 PRE (Land Status Records) - Preemption.
 PRIN MER (Land Status Records) - Principal Meridian.
 PROC (Land Status Records) - Proclamation.
 PROJ (Land Status Records) - Project.
 PROP (Land Status Records) - Propose, Proposed.
 PROT WDL (Land Status Records) - Protective Withdrawal.
 PS (Land Status Records) - Public Sale.
 PS - Point of Spiral (curve).
 PSC - Point of Spiral to Curve.
 PSC - Private survey claim. Used in the specimen field notes in the General Instructions of 1855.
 PST - Point of Spiral to Tangent.
 PU (Land Status Records) - Public Use.
 PUR (Land Status Records) - Purchase.
 PW RES (Land Status Records) - Public water reserve.
 PWR PROJ (Land Status Records) - Power Project.
 PWR S (Land Status Records) - Power site.
 PX (Land Status Records) - Private Exchange.

Q

QCD (Land Status Records) - Quitclaim deed.
 QS (Land Status Records) - Quicksilver.

R

R (Land Status Records) - Range.
 RB (Land Status Records) - River Basin.
 RCPL (Land Status Records) - Reciprocal.
 RD (Land Status Records) - Road.
 RDS (Land Status Records) - Reservoir declaratory statement.
 re (Land Status Records) - Reference.
 RE-CL (Land Status Records) - Reclassified.
 REC LSE (Land Status Records) - Recreation lease.
 RECL WDL (Land Status Records) - Reclamation withdrawal.
 RECON (Land Status Records) - Reconveyed.
 RECON - Reconnaissance.
 REC&PP - Recreation and Public Purposes.
 REG (Land Status Records) - Regional.
 REJ (Land Status Records) - Rejected and rejection.
 REL (Land Status Records) - Relinquished or Relinquishment.
 RES (Land Status Records) - Reservation or Reserve.
 RESC (Land Status Records) - Rescind, Rescinded.
 REST (Land Status Records) - Restoration or Restored.
 RESVR (Land Status Records) - Reservoir.
 REV (Land Status Records) - Revocation or Revoked.
 RF - Representative Fraction.
 RFG (Land Status Records) - Refuge.
 RGR STA (Land Status records) - Ranger Station.
 RHE (Land Status records) - Reclamation homestead entry.
 RI - Rhode Island.
 RI (Land Status Records) - Range Improvement.
 RIP - Branch of Records Improvement (Original name was "Records Improvement Project.").
 RLS - Registered Land Surveyor.
 RMKS (Land Status Records) - Remarks.
 R&PP (Land Status Records) - Recreation and Public Purposes.
 R&R (Land Status Records) - Register and Receiver.
 RR (Land Status Records) - Railroad.
 RRG (Land Status Records) - Railroad Grant.
 RRRS (Land Status Records) - Railroad indemnity selection.
 RRLS (Land Status Records) - Railroad lieu selection.
 RS - Registered Surveyor.
 RS (Land Status Records) - Revised Statutes.
 RSB (Land Status Records) - River sub-basin.
 RSTD (Land Status Records) - Restricted.

RVST (Land Status Records) - Revested.
R/W (Land Status Records) - Right-of-way.
RY (Land Status Records) - Railway.

S

S (Land Status Records) - South.
S DAK - South Dakota.
SAH (Land Status Records) - Soldier's Additional Homestead.
SB MER (Land Status Records) - San Bernardino Meridian.
SC - South Carolina.
SCS (Land Status Records) - Subsistence Camp Site.
SCS - United States Soil Conservation Service.
SD (Land Status Records) - State Director.
SD - South Dakota.
SDO (Land Status Records) - State Director's Order.
SDS (Land Status Records) - Soldier's declaratory statement.
SDW (Land Status Records) - Stock Driveway.
SDW WDL (Land Status Records) - Stock driveway withdrawal.
SE (Land Status Records) - Southeast.
SEC (Land Status Records) - Section.
SEC OF AGRI (Land Status Records) - Secretary of Agriculture.
SEC OF THE INT (Land Status Records) - Secretary of the Interior.
SEGR (Land Status Records) - Segregate or Segregated.
SEL (Land Status Records) - Selection or Selected.
SETER - Survey Equipment Technical Evaluation Report.
SEW MER (Land Status Records) - Seward Meridian.
SG (Land Status Records) - State Grant.
SHC (Land Status Records) - Small Holding Claim.
SI (Land Status Records) - Silver.
SIA - Stereo Image Alternator.
SIM (Land Status Records) - Simultaneous.
SL MER (Land Status Records) - Salt Lake Meridian.
SLAR - Side Looking Airborne Radar.
SLUP (Land Status Records) - Special Land Use Permit.
SEM (Land Status Records) - Soil and moisture.
SMC - Special Meander Corner.
SO - State Office.
SO (Land Status Records) - Secretary's Order.
SOD (Land Status Records) - Sodium.
SPEC PER (Land Status Records) - Special permit.
SR (Land Status Records) - Serial Register.
SRHE (Land Status Records) - Stockraising Homestead Entry.
SS (Land Status Records) - State Selection.
SSE (Land Status Records) - Subsurface Estate.
ST (Land Status Records) - Small Tract.
STA (Land Status Records) - Station.
STAT - Statutes. Used in citing a reference to the United States Statutes at Large, for example: 85 Stat. 688, which cites the eighty-fifth volume of the United States Statutes at Large, at page 688.
ST CL (Land Status Records) - Small tract classification.
ST HEL MER (Land Status Records) - St. Helena Meridian.
ST LSE (Land Status Records) - Small tract lease.
STS (Land Status Records) - Small tract sale.
ST STEP MER (Land Status Records) - St. Stephens Meridian.
SUBDIV UND (Land Status Records) - Subdivisions undefined.
SUBJ (Land Status Records) - Subject.
SUL (Land Status Records) - Sulphur.
SUPPL (Land Status Records) - Supplemental.
SUR (Land Status Records) - Survey or Surveyed.
SUS (Land Status Records) - Suspended.
SW (Land Status Records) - Southwest.
SX (Land Status Records) - State Exchange.

T

T (Land Status Records) - Township.
TA (Land Status Records) - Tentative Approval.
TALL MER (Land Status Records) - Tallahassee Meridian.
TBM (USGS and USC&GS) - Temporary bench mark.

TC (Land Status Records) - Timber culture.
 TCP (Land Status Records) - Timber Cutting Permit.
 TEL (Land Status Records) - Telephone.
 TELEG (Land Status Records) - Telegraph.
 TEMP (Land Status Records) - Temporary.
 TERM (Land Status Records) - Terminate, Termination.
 TIR - Thermal infrared.
 T&M (Land Status Records) - Trade and Manufacturing.
 TMB (Land Status Records) - Timber.
 T&M SITE - Trade and Manufacturing Site.
 TN - Tennessee.
 TNS (Land Status Records) - Townsite.
 TP (Land Status Records) - Township.
 TP - Turning point.
 TR (Land Status Records) - Tract.
 TRANS (Land Status Records) - Transmission.
 TRF (Land Status Records) - Transfer.
 TRPD (Land Status Records) - Transferred.
 TRF JURIS (Land Status Records) - Transfer of Jurisdiction.
 TRI STA (Land Status Records) - Triangulation Station.
 TRSP (Land Status Records) - Trespass.
 T/S (Land Status Records) - Timber and Stone.
 TS - Town site.
 TX - Texas.

U

UA (Land Status Records) - Unit Agreement.
 UINTAH SPEC MER (Land Status Records) - Uintah Special Meridian.
 UNAP PROP (Land Status Records) - Unappropriated.
 UNDET (Land Status Records) - Undetermined.
 UNDBGD (Land Status Records) - Underground.
 UNSUR (Land Status Records) - Unsurveyed.
 UPS - Universal Polar
 UR (Land Status Records) - Uranium.
 USAF (Land Status Records) - United States Air Force.
 USASI - U.S.A. Standards institute (Formerly Stereographic. A.S.A.).
 USC (Land Status Records) - United States Code.
 USCA - United States Code Annotated.
 USC&GS - United States Coast and Geodetic Survey.
 USC SUPP - Supplement to U.S. Code.
 USDA - United States Department of Agriculture.
 USFS - United States Forest Service.
 USGS (Land Status Records) - United States Geological Survey.
 USLM - United States Location Monument.
 USMM - United States Mineral Monument. The term was formerly used when a monument was established in connection with a mineral survey; it is seen in older field notes and on monuments established prior to its discontinuation, though the preferred term is now Location Monument.
 USMS-United States Mineral Survey.
 USS (Land Status Records) -United States Survey.
 USST at L. - United States Statutes at Large.
 UT - Utah.
 UTE MER (Land Status Records) - Ute Meridian.
 UTM - Universal Transverse Mercator.
 UV - Ultra Violet.

V

V (Land Status Records) - Village.
 VA - Virginia.
 VABM-Vertical Angle Bench Mark.
 VAR INT (Land Status Records) - Variable Interest.
 VAR - Variation (magnetic).
 VIZ - A contraction for videlecet, to-wit, namely, that is to say
 vs - Versus. Also, occasionally, abbreviated v.
 VT - Vermont.

W

W/H - Width-height ratio.

WWV - Radio time signal station call letters originally at Wheeling, West Virginia but now in Boulder, Colo.
WVVH - Radio time signal call letters for the Hawaii station.
W (Land Status Records) - West.
WC - Witness Corner.
WA - Washington.
W/CHG (Land Status Records) - With Change(s).
WAA (Land Status Records) - War Assets Administration.
WCMC - Witness Corner Meander Corner
WAR DEPT (Land Status Records) - War Department.
WASH - Washington.
WASH MER (Land Status Records) - Washington Meridian.
WD (Land Status Records) - Warranty deed.
WDL (Land Status Records) - Withdrawal.
WDN (Land Status Records) - Withdrawn.
WFO - Western Field Office. Established in Portland, Oregon in 1973.
WI - Wisconsin.
WILL ME R (Land Status Records) - Willamette Meridian.
WIS - Wisconsin.
WHO (Land Status Records) - Without.
WO - Washington Office.
WP (Land Status Records) - Water Power.
WP - Witness Point.
WPC - Witness private claim. Used in the specimen field notes in the General Instructions of 1855.
WP DES (Land Status Records) - Water Power Designation.
WR (Land Status Records) - Water rights.
WR MER (Land Status Records) - Wind River Meridian.
WS (Land Status Records) - Watershed.
WT (Land Status Records) - Warrant.
WV - West Virginia.
WY - Wyoming.
WYO - Wyoming.

X-Y-Z

X (Land Status Records) - Exchange(d).
ZTS - Zoom Transfer Scope.

PREFACE

The original edition of this glossary was developed for use by trainee cadastral surveyors during the cadastral survey professional series of training courses. This edition is intended for use by all BLM personnel and should be of particular value to newly hired cadastral and cartographic personnel. For the sake of clarity and exactness, many first edition definitions have been modified. The definitions are not meant to conflict with those in other glossaries, but since the glossary is for BLM cadastral personnel, some terms will have a meaning unique to BLM cadastral surveys.

A

ABANDON - To desert or forsake entirely. To voluntarily relinquish possession with the intent of terminating ownership, but without vesting it in any other person. In determining whether one has abandoned his property or rights, intent is the paramount object of inquiry for to abandon, one must intend to abandon. The intent must be clear and the act must be complete. To abandon a homestead one must leave with the intention of never returning. To abandon a mining claim held by location without patent, the holder must leave voluntarily without any intention to retake or resume the claim and regardless of what may become of it in the future. Even in prescriptive rights, non-use is not abandonment. See **HIGHWAY ABANDONMENT**, **ABANDONED MILITARY RESERVATION**.

ABANDONED MILITARY RESERVATION - A military reservation which has been transferred to the Department of the Interior for Administration.

ABRASION - Mechanical scratching, scraping, removal of emulsion or film base moving through cameras or processing equipment.

ABROGATE - To abolish by authoritative action. To do away with or annul.

ABSENTEE OWNER - By law, one cannot be both a resident and an absentee of a given area, state or country. Therefore, an owner who lives in an area other than the one in which land he owns is situated is an absentee owner.

ABSOLUTE ORIENTATION - The scaling, leveling and attitude correction of photographs in a photogrammetric instrument to fit ground control or the mathematically equivalent process in analytical photogrammetry.

ABSTRACT - (noun) A summary or abridgment. A shortened form of a work or record retaining the general sense and unity of the original. (verb) To summarize. To shorten or condense by the omission of words without sacrifice of sense or continuity. See **ABSTRACT OF TITLE**.

ABSTRACT OF TITLE - A condensed history of the title to land, consisting of a synopsis or summary of the material or operative position of all the conveyances, which in any manner affects said land or any estate or interest therein, together with a statement of all liens, charges, or liabilities to which the same may be subject.

ABUT - To reach; to touch. In old law the ends were, said to abut, the sides to adjoin. The term "abutting" implies a closer proximity than the term "adjacent."

ABUTTING PROPERTY - The butting or bounding of lands, showing to what other lands they adjoin.

ACCEPTED SURVEY - A survey accepted by the official having Cadastral Survey approval authority. See **CADASTRAL SURVEY APPROVAL AUTHORITY** and **OFFICIAL CADASTRAL SURVEY**.

ACCESS - The right to enter and leave over the lands of another. See **EGRESS**; **REGRESS**.

ACCESSORIES, CORNER - See **CORNER ACCESSORIES**.

ACCRETION - Derived from the Latin "accrescere" which means to grow or increase, it is the gradual and imperceptible addition of soil or other material by the natural processes of water-borne sedimentation or by the action of currents against shores and banks. Accretion is the washing of sand, silt or soil so as to form firm ground, called alluvion. In common practice the terms alluvion and accretion have been used almost interchangeably. Usually, however, alluvion means the deposit itself while accretion usually denotes the act. See **ALLUVION**, **RELICION**, **EROSION**, **AVULSION**, **RIPARIAN RIGHTS**.

ACCRETION, ARTIFICIAL - Additions to a riparian owner's soil by the imperceptible process of accretion which was induced by man's activities.

ACCURACY - Degree of conformity with a standard, or accepted value. Accuracy relates to the quality of a result, and is distinguished from precision which relates to the quality of the operation by which the result is obtained. See **PRECISION**.

ACEQUIA - A ditch, channel or canal through which water, diverted from its natural course, is conducted for use in irrigation or other purposes. Public ditches.

ACKNOWLEDGEMENT - In regard to a legal instrument or document, formal declaration before an authorized official such as a Notary Public, by the person who executed the instrument, that it is his free act and deed. Also refers to the Notary's statement itself.

ACQUIESCENCE - Some act of concurrence by the adjoining owners bearing on the practical location of their common boundary where the definite or more accurate position of the line or lines has not or cannot be defined by survey. Acquiescence may be the tacit consent of one owner by not interposing a formal objection to what might be an encroachment by another, all subject to judicial review as to the legal effect.

ACQUIRED LANDS - Federal lands obtained by purchase, condemnation, exchange, or gift under laws other than public land laws. Legally defined as: "...land obtained by the United States through purchase or transfer from a State or private individual and normally dedicated to a specific use." McKenna v. Wallis, 200 F. Supp.468 (1961). See also Bobby Lee Moore, et al, 72 I.D. 505 (1965). See **FEDERAL LAND, PUBLIC LANDS**.

ACQUIRED LANDS SURVEY - Federal lands acquired by purchase, condemnation, exchange, or gift under laws other than public land laws. May also be called reacquired lands. The survey of acquired or reacquired land may be subject to state and other local laws.

ACRE - A unit of area measurement. An acre equals 10 square chains or 43,560 square feet. 640 acres equal 1 square mile.

ACT OF APRIL 25, 1812 - Provided "that there shall be established in the Department of the Treasury an office to be denominated as the General Land Office; the chief officer of which shall be called the Commissioner of the General Land Office..." Edward Tiffin was the first Commissioner of the General Land Office. See **GENERAL LAND OFFICE**.

ACT OF APRIL 29, 1898 - See **ARKANSAS SWAMP LANDS COMPROMISE ACT**.

ACT OF AUGUST 4, 1842 - An act to "provide for the earned occupation and settlement of the unsettled parts" of Florida. By meeting certain conditions and fulfilling certain requirements, a settler was to receive 160 acres as an armed occupation donation.

ACT OF DECEMBER 22, 1928 - See **COLOR-OF-TITLE ACT**.

ACT OF JULY 22, 1854 - Donation of 160 acres to each male white resident of New Mexico who resided there on January 1, 1853, and to male white citizens or intended citizens of the United States who emigrated there by January 1, 1858. According to the Public Land Commission of 1904, only 4,640 acres had been approved for patent under this act.

ACT OF MARCH 1, 1800 - This act established a precedent for the important principle that corners regularly set by a cadastral surveyor in the field are held to be the true corners, although later surveys may show they were placed incorrectly.

ACT OF MARCH 3, 1877 - See **DESERT LAND ENTRY**. Also See **CAREY ACTS**, which provided for grants of desert lands to states.

ACT OF MAY 10, 1800 - This Act contained the authorization for the creation of the first "Land Districts" and the provision for the placement of errors of measurement and convergence in the northern and western tiers of sections. In the old Northwest Territory these errors were placed in the last half mile,

but in Louisiana the errors were placed equally in each half mile of the last mile. In Florida they were sometimes placed on the south and east side of a township. The general instructions in the Manual of Surveying Instructions, 1855, directed all survey districts to handle the matter in the same way, however, irregular procedures continued to be used in some areas for a short time. See LAND DISTRICT.

ACT OF MAY 18, 1796 - Provided for administration, survey and sale of public lands in the central part of the Northwest Territory, north of the Ohio River. Also established the position of executive Surveyor General, who supervised work of professional surveyors under contract to the Government. The rectangular system of surveys inaugurated under the Ordinance of May 20, 1785 was continued, and the present numerical arrangement of the 36 sections was adopted.

ACT OF MAY 20, 1785 - See ORDINANCE OF MAY 20, 1785.

ACT OF MAY 27, 1908 (35 Stat.347) - Provided "for the purchase of metal monuments to be used for public land survey corners wherever practicable." See REGULATION IRON POST.

ACT OF OCTOBER 22, 1919 - See PITTMAN UNDERGROUND WATER ACT.

ADDITIONAL HOMESTEAD ENTRY - An application for title which is made by an individual for public lands additional to those already acquired under the homestead laws. The total area covered by an original homestead and additional homestead entries could not exceed the maximum area allowed for the class of homestead entry involved.

AD HOC - For this; for this special purpose. An attorney ad hoc, or a committee ad hoc, is one appointed or selected for the particular case at hand without consideration of wider application.

AD INFINITUM - Without end or limit. To an infinite extent; indefinitely.

ADIT - In mining, an entrance or approach; a horizontal excavation used as an entrance to a mine, or a vent by which ore or water are removed. See SHAFT, DRIFT, TUNNEL.

ADJACENT - Lying near or close to; sometimes contiguous; neighboring. The term "adjacent" implies that the two objects or parcels of land are not widely separated, though they may not actually touch, while "adjoining" implies that they are so joined or united to each other that no third object or parcel of land intervenes. See ABUTTING PROPERTY.

ADJOINER - An owner of land which touches the land of another, his name being given in the deed or instrument by which the land is conveyed.

ADJOINING - Touching or contiguous, as distinguished from lying near to or adjacent. To be in contact with; to abut upon.

ADJOINING FARM HOMESTEAD ENTRY - A homestead entry on public lands which are adjacent to land owned by the entryman (which he had obtained other than by homestead entry) and which, together with the land owned, does not exceed 160 acres.

ADJUDICATION - The pronouncing of a judgment or decree in a cause; also the judgment given. The legal processing of applications, entries, claims, etc., to assure full compliance with the public-land laws and regulations; also the interpretation of statutes and regulations and their application to a particular set of facts.

ADJUSTMENT - 1) A process designed to remove inconsistencies in measured or computed quantities by applying derived corrections to compensate for random, or accidental errors, such errors not being subject to systematic corrections. 2) Bringing the movable parts of an instrument or device more nearly into proper relationship and fit. 3) Positioning the public land lines on the topographic map to indicate their true, theoretical, or approximate location relative to the adjacent terrain, and culture, by reconciling the information

shown on BLM plats and field records with the ground evidence of the location of the lines.

ADMINISTRATIVE INDEX MAP (U.S.G.S.) - A special State map printed for administrative use. Quadrangle locations (by latitude and longitude), names, dates of survey, and authorship are shown by black print. Provisional quadrangle names and areas of 7 1/2 and 15-minute quadrangles are also shown by overprint. Areas of quadrangles (in square miles) are shown in the left and right margins. Areas of partial quadrangles or portions of quadrangles falling within a particular State are shown within the individual quadrangle outlines.

ADMINISTRATIVE MAP - A planimetric map of a BLM administrative unit.

ADMINISTRATIVE SITE - A reservation of public lands for use as a site for public buildings, ranger stations, or other administrative facilities.

ADVANCE FIELD COMPLETION - (USGS) Field completion carried out prior to stereo compilation. It includes complete photo identification and field interpretation; road, drainage, and woodland classifications; obtaining name and boundary information; obtaining data for accuracy checks; and assembling all data needed to compile and publish a map without additional fieldwork.

ADVERSE POSSESSION - The possession of land, under such circumstances as indicate that such possession has been commenced and continued under an assertion of rights on the part of the possessor against the original owners. To be "adverse," possession must be "actual, continued, visible, notorious, distinct and hostile." Title obtained by adverse possession is a fee-simple title. Possession of land does not operate adversely against the United States or a State. Title to Government land cannot be acquired by adverse possession-however, under the Act of Dec.22,1928, Public No.645, 70th Cong., a patent may be obtained to public lands held for 20 years under "color of title." See COLOR-OF-TITLE ACT; PRESCRIPTION.

ADVERSE PROCEEDINGS - Strictly speaking, a contest; often, that portion of the contest proceedings which precede the hearing.

AERIAL PHOTOGRAPH - A photograph of the earth's surface taken from airborne equipment, sometimes called aerial photo or air photograph.

AEROTRIANGULATION - A process of establishing coordinates with accuracies close to those of field-surveyed monuments, but without field surveying them. It is a process of mathematically interpolating between the coordinates of actual field monuments to obtain the coordinates or a building corner or other stable point seen in an aerial photograph.

AFFIDAVIT - A written or printed declaration or statement of facts made voluntarily, and confirmed by oath, without notice to the adverse party and without opportunity to cross-examine. Affidavits are usually attached to field notes in support of corner restorations. See DEPOSITION.

AFFINE TRANSFORMATION - 1) A multiple-stage rectification technique made by photographic alterations of map dimensions which include differential magnification (transformation of one rectangle into another of different proportions) and shear (transformation of a rectangle into a parallelogram). 2) A transformation in which straight lines remain straight and parallel lines remain parallel. Angles, however, may undergo changes and differential scale changes may be introduced.

AGONIC LINE - The locus of all points on the earth's surface at which the magnetic north coincides with astronomic north. Also denotes its representation on a map.

AGREEMENT LINE - A concurrence between adjoining land owners on the location of their common boundaries. The effect on the location is subject to judicial review.

AGRICULTURAL LANDS - Land suitable for agricultural purposes. Land may be agricultural in character even though it is covered with trees, grass, weeds

or brush.

AIRBORNE CONTROL SURVEY (ABC) - A control survey using theodolites, electronic distance measuring equipment and a helicopter equipped with a hoversight and flashing light. The helicopter is hovered over a ground station and the position of the flashing light is determined by computations.

AIR NAVIGATION SITE - A reservation of public lands for aviation purposes pursuant to the act of May 24, 1928 (45 Stat. 728, 49 U.S.C. sec. 214).

ALASKA NATIVE CLAIMS SETTLEMENT ACT - The Act of Congress of December 18, 1971, 85 Stat. 688, 43 U.S.C. 1601, et. seq., which provides for the settlement of aboriginal land claims of the Natives and Native groups in Alaska.

ALASKA PURCHASE - Purchase of Alaska from Russia under a convention signed March 30, 1867, and proclaimed June 20, 1867, provided the United States with more than 365 million acres of additional public lands.

ALIDADE - The part of a surveying instrument which consists of a sighting device, with index, and reading or recording accessories. The alidade of a theodolite or surveyor's transit is the upper part of the instrument: the telescope, micrometer microscopes, or verniers, and accessories, mounted on what is termed the "upper motion" of the instrument, and used in observing a direction or angle on the graduated circle, which is mounted on the "lower motion." The alidade used in topographic surveying consists of a straightedge ruler carrying a telescope, or other sighting device, and used in recording a direction on the plane-table sheet.

ALIENATION - A legal term applied to the process of transfer of title, or a legal conveyance of property to another. In common BLM usage, alienated lands are lands that have been patented.

ALINEMENT (alignment) - 1) Formation or position in line, or, more properly, in a common vertical plane. 2) In railway or highway surveying: The ground plan, showing the alinement or direction, and components of the center line, as distinguished from a profile, which shows the vertical element.

ALIQOT - Contained an exact number of times in another; a part of a measurement that divides the measurement without a remainder. See **ALIQOT PARTS**.

ALIQOT PARTS - An aliquot part is a legal subdivision of a section and results from an equal division of halving and fourths. For example, the division of a 640 acres section into 4 160 acre quarter-sections or sixteen 40 acre 'forties.' See **LEGAL SUBDIVISION**, **SUBDIVISION**, **SMALLEST LEGAL SUBDIVISION**.

ALIUNDE - From another source. Evidence aliunde is evidence from outside or from another source. A written instrument may be explained by evidence drawn from sources outside the instrument itself, such as the testimony of a witness to conversations, admissions or preliminary negotiations.

ALLOTMENT - See **INDIAN ALLOTMENT**.

ALLOWED APPLICATION - An application to acquire title to public lands which has been accepted and approved as having been filed in full compliance with the requirements of the regulations; an entry.

ALLOWED ENTRY - See **ENTRY ALLOWED**.

ALLUVION (alluvium) - The soil that is deposited along a river or the sea by gradual and imperceptible action of the water. See **ACCRETION**.

ALTIMETRY - The science of determining the difference of elevation by the use of altimeters.

ALTITUDE - The vertical angle between the plane of the horizon and the line to the object which is observed or defined. In astronomy and surveying, the

altitude is positive if the object is above the horizon, and negative if below it. In surveying, a positive altitude is also termed an angle of elevation; a negative altitude, an angle of depression. In photogrammetric surveying and airport zoning, altitude applies to the elevation above a datum of points in space (as opposed to points on the ground surface) above a datum, usually mean sea level.

AMENDED ENTRY - A process of adjudication under R.S. sec. 2372, as amended February 24, 1909 (35 Stat. 645; 43 U.S.C. sec. 697). This process is used in cases of erroneous location as a means of protecting bona fide rights of claimants. See **BONA FIDE, ERRONEOUS LOCATION**.

AMENDED MONUMENT - There are two primary applications of amended monuments stated in the BLM Manual of Instruction. In general a monument whose position no longer marks the true position for the corner. The monument is marked A.M.

"If it is known that a mineral survey, homestead entry, small holding claim, right of way, reservoir, or other survey has been connected with a corner of an exterior subject to rectification, the fact is stated in the special instruction. In such a case the marks A.M. (signifying amended monument) are added to the original corner monument and the old corner is connected by course and distance to the new." (BLM 1973, paragraph 3-36.)

"A recovered closing corner not actually located on the line that was closed upon will determine the direction of the closing line, but not its legal terminus. The correct position is at the true point of intersection of the two lines. The new monument in those cases where it is required will always be placed at the true point of intersection. An off-line monument in those cases where a new monument is required will be marked A.M. (for amended monument) and will be connected by course and distance." (BLM 1973, paragraphs 5-41 and 8-16(6).)

AMERICAN MERIDIAN - See **WASHINGTON MERIDIAN**.

ANALOG - Representation of quantities or locations by means of continuously variable physical quantities, as in a physical model, or a drawing.

ANALYTICAL AEROTRIANGULATION - A mathematical determination of ground positions of panelled points observed in a strip or block of aerial photographs. The positions are determined by computations based on coordinate measurements of the image positions in each photograph. This method, which considers such factors as camera calibration, film distortion, atmospheric refraction and earth curvature during computations, produces data of a higher order of accuracy than that obtained by the mechanical methods.

ANGLE POINT - A point of survey where the alinement or boundary deflects from a straight line. Any break in bearing on a survey can be considered an angle point.

ANGULAR DISTORTION - Distortion in shape of a map area caused by non-conformality of the map projection.

ANGULAR ERROR OF CLOSURE - The discrepancy between the summation of a series of field angles and the theoretical sum.

ANGULAR PARALLAX - The angle subtended by the eye base of the observer at the object viewed.

APEX - In mining, the outcrop of a vein or the highest portion of a fold in a vein.

APPEAL - A process of civil law origin that entirely removes a controversy to an appellate court for the purpose of obtaining review and possible retrial. In general terms, an appeal takes a case to a higher court. See **WRIT OF ERROR, CERTIORARI, BOARD OF LAND APPEALS**.

APPELLANT - The party who takes an appeal from one court or jurisdiction to another. Used broadly or nontechnically, the term includes one who sues out a

writ of error. See WRIT OF ERROR.

APPELLEE - The party in a cause against whom an appeal is taken; that is, the party who has an interest adverse to setting aside or reversing the judgment. Sometimes also called the "respondent."

APPLICANT - An individual, corporation, State or local government, etc., applying for rights in, or title to, public lands or resources. See **APPLICANT, SURVEY**.

APPLICANT, SURVEY - An individual, corporation, State or local government, etc., requesting the execution of a cadastral survey.

APPLICATION - A formal request for rights in, or eventual title to, public lands or resources.

APPROPRIATED PUBLIC LANDS - Original public domain lands which are covered by an entry, patent, certification, or other evidence of land disposal; for certain purposes, public lands which are within a reservation, which contain improvements constructed with the aid of Federal funds, or which are covered by certain classes of leases are also considered appropriated. See **VACANT AND UNAPPROPRIATED PUBLIC DOMAIN LANDS**.

APPROVED CLEAR LIST - A selection which has been approved by the Secretary of the Interior or the Director of the Bureau of Land Management. See **CLEAR LIST**.

APPROVED MINERAL SURVEY - The approval of a mineral survey at the State level is final. No Washington Office acceptance is required as in the case of public land subdivisional surveys.

APPROVED SURVEY - The terms "approved survey" and "official survey" are often incorrectly used as being synonymous with "accepted survey". Strictly speaking an "approved survey" is a survey which has the field notes approved and the plat accepted by the BLM official who has been delegated the authority for such action. The proper term is now **ACCEPTED SURVEY**. (Prior to 1910 the field notes and plats were **APPROVED** by the Surveyor's General, which action was equivalent to the present acceptance of the plat. After 1910 they were approved by the Surveyor General, or Supervisor of Surveys, and after examination accepted by the Commissioner of the General Land Office.) The field notes and plat become **OFFICIAL** records of the BLM when filed in the appropriate land office. The field notes and the plats of Mineral Surveys are both **APPROVED** at the State Office level. See **ACCEPTED SURVEY**, **OFFICIAL SURVEY** and **MINERAL SURVEY**.

APPURTENANCE - Anything so annexed to the land or used with it that it will pass with the conveyance of the land. An incidental right (as a right of way) attached to a principal property right and passing in possession with it.

ARBITRATION - The submission for determination of disputed matter to a private unofficial person selected by agreement or in a manner provided by law. Voluntary arbitration is; therefore, by mutual and free consent of the parties.

ARBITRATOR - A private, disinterested person chosen by the parties to a disputed question for the purpose of hearing their contention and giving judgment between them. The parties to the dispute submit themselves to the arbitrator's decision (award).

AREA, GROSS - In BLM usage, the total area of all lands, irrespective of ownership, within the boundaries of a township, reservation or other tract of land. See **AREA, NET**.

AREA, NET - In BLM usage, the area of public lands within the boundaries of a township, reservation or other tract of land less exclusions. See **AREA, GROSS**.

AREAS (BLM) - From the mid-1950's until 1961 the Bureau of Land Management was composed of the Headquarters Office in Washington, D.C.; a field organization of three "Areas" in the United States and one in Alaska; 11 State Offices and

an Eastern States Office which was in Washington, D.C. Area 5 had supervision over Washington, Oregon and California. The Area administrative office was in Portland, Oregon. Area 5 had supervision over Idaho, Nevada, Utah and Arizona. The Area administrative office was in Salt Lake City, Utah. Area 3 had supervision over Montana, Wyoming, Colorado, New Mexico and the Missouri River Basin surveys. The Area administrative office was in Denver, Colorado. Area 4 had supervision over Alaska and the administrative office was in Anchorage, Alaska. See REGIONS (BLM).

ARKANSAS DRAINAGE ENTRY - An entry on public lands to which, under Federal statutory authority, Arkansas State drainage charges attach.

ARKANSAS SWAMP LANDS COMPROMISE ACT - Under the terms of this act of April 29, 1898, v Arkansas relinquished all rights, title and interest to the remaining unappropriated swamp and overflowed lands within its boundaries (43 U.S.C. sec. 987).

ARROW - An obsolete term for chaining pin.

ARCTIC CIRCLE - The geographic parallel having a north latitude of 90° minus the sun's declination at summer solstice. Although the value changes slightly every year it is shown on most maps as $66^\circ 33'$.

ARTICLES OF CONFEDERATION - The name of the instrument embodying the compact made between the Thirteen Original States prior to the adoption of the present constitution.

ASSESSMENT WORK - The annual labor or improvements which must be performed on a valid mining claim location in order for the claimant(s) to maintain a possessory right to the claim as against the United States or third parties. The statutory requirement (43 U.S.C.28) is that \$100 worth of labor or improvements must be made annually on valid claims for which a patent has not been issued.

ASSIGNMENT INSTRUCTIONS - Written instructions to a cadastral surveyor authorizing him to execute a specific part, or all, of a particular survey. Even if the survey has been authorized, a surveyor may not execute it or any part of it without instructions containing his specific assignment. See SPECIAL INSTRUCTIONS.

ASTRONOMIC AZIMUTH - (1) The direction of a line relative to the meridian, as determined from astronomic observations. Usually measured clockwise from south. (2) At the point of observation, the angle measured from the vertical plane v through the celestial pole to the vertical plane through the observed object. Astronomic azimuth is the terrestrial azimuth which results directly from observations on a celestial body: It is measured in the plane of the horizon and is usually reckoned from south (0°), through west (90°), north (180°), and east (270°) back to south (360° or 0°). It is affected by the local deflection of the vertical (station error) which, in the United States, produces differences between astronomic and geodetic azimuths of as much as $26''$ in the mountain regions of the Western States and $10''$ in the less rugged Eastern States. Astronomic azimuths are sometimes reckoned clockwise or counterclockwise through 180° .

ASTRONOMIC LATITUDE - The angle between the plane of the earth's equator and a normal to the geoid as determined by celestial observations.

ASTRONOMIC LONGITUDE - The dihedral angle between the Greenwich Meridian and the observer's meridian as determined by astronomic observations and time signals.

ASTRONOMIC NORTH - The local direction of the earth's axis of rotation as determined from celestial observations.

ATTEST - To affirm to be true or genuine. Specifically, to authenticate by signing as a witness; to establish or verify the usage of; to bear witness. See TESTIMONY.

AUTHORITY, PUBLIC LANDS - Article IV Sec. 3, Clause 2 of the Constitution of

the United States established the fundamental authority for public land and resource management upon the adoption of the Constitution in 1787. It states: "Congress shall have the power to dispose of and make all needful rules and regulations respecting territory and property belonging to the United States..." It has been held that this power of Congress is without limitation. See CADASTRAL SURVEY AUTHORITY.

AUTO SURVEYOR - Trade name for an Inertial Positioning System.

AUTOMATIC LEVEL - A leveling instrument in which the line of sight is automatically maintained horizontal by means of a built-in compensator acting through the force of gravity.

AUXILIARY GUIDE MERIDIAN - Where guide meridians have been placed at intervals exceeding the distance of 24 miles (under practice permissible prior to issuance of the 1881 Manual of Surveying Instructions which specified 24 mile tracts), and new governing lines are required, a new guide meridian is established, and a local name is assigned, such as "Twelfth Auxiliary Guide Meridian West," or "Grass Valley Guide Meridian." Auxiliary guide meridians are surveyed, in the same manner as guide meridians.

AUXILIARY MEANDER CORNER - A corner established at a suitable point on the meander line of a lake lying entirely within a quarter-section or on the meander line of an island falling entirely within a section and which is found to be too small to subdivide. A line is run connecting the auxiliary meander corner to a regular corner on the section boundary. (BLM 1973, paragraphs 121 and 122.) Also established where lines other than regular subdivision of section lines intersect a meander line. (BLM 1973, sample plat). See SPECIAL MEANDER CORNER.

AVULSION - A river's sudden change in flow alignment out from it's previous left and right banks to a new channel, leaving an identifiable upland area between the abandoned channel and the new channel. The new flow alignment will generally be a shortcut in channel length because of hydraulic considerations. The U.S. Supreme Court in Iowa v. Nebraska 143 US 359 distinguished avulsion from rapid erosion, but some State courts have established different definitions. See Goins v. Merryman 183 Okla. 155. Frequently the elements of sudden and perceptible changes are included in the definitions. See ACCRETION.

AVULSION, ARTIFICIAL - Man-made or man-induced changes in flow alignment of a river such as to leave an identifiable area of upland between the old and new channels.

AVULSIVE CUTOFF - A river's action when avulsion takes place; also, describes the area of land enclosed by the old and the new channels.

AZIMUTH - The angle measured on the horizon between the meridian and the plane of the vertical circle through a celestial body or other object. Most government agencies reckon azimuth clockwise from south, 0° to 360°.

B

BACK AZIMUTH - The azimuth of a geodetic line at the end opposite the reference end. It differs from the forward azimuth (at the reference end) by 180° plus the amount of the convergence of meridians between the two points. See **AZIMUTH**.

BACK BEARING - The bearing at the opposite end of a line from the observer as measured from the true meridian at the opposite end of the line. The back bearing on all lines (other than North-South lines) are different from the bearing at the observer's station. They differ by the amount of convergence of the meridians between the two points.

BACKSHORE (T. R. No.4) - That zone of the shore or beach lying between the foreshore and the coastline and acted upon by waves only during severe storms, especially when combined with exceptionally high water. See **BEACH**, **SHORE**, **FORESHORE**, **COASTLINE**.

BACKSIGHT - 1) A sight on a previously established survey point, other than a closing or check point. 2) In leveling, a reading on a rod held on a point with a previously determined elevation to determine the height of the instrument (HI).

BALANCING A SURVEY - Distributing corrections through a traverse to eliminate the errors of closure according to some approved method so that the resulting survey figure will be geometrically and mathematically consistent. The removal of errors by the method of least squares is termed an adjustment.

BANK - The continuous margin along a river or stream where all upland vegetation ceases. See **RIGHT BANK**, **LEFT BANK**, **BEDS OF NON-NAVIGABLE LAKES AND STREAMS**.

BANKHEAD-JONES LANDS - Under Title III of the Bankhead-Jones Farm Tenant Act, of July 22, 1937, the Department of Agriculture was authorized to purchase submarginal farm lands in the Great Plains region for purposes of reclamation, conservation, etc. Approximately 2 million acres were acquired and are termed "Bankhead-Jones Lands". These lands are now under the administration of the Bureau of Land Management, are in the class of Federal lands called "acquired lands" and are not subject to entry or disposal under the general public land laws. See **ACQUIRED LANDS**.

BARGAIN AND SALE - In conveyancing, the transferring of property from one to another, upon valuable consideration, by way of sale. A "bargain and sale" deed usually means one which carries no warranty. See **DEED**, **WARRANTY** and **PATENT**.

BARK SCRIBE - To bark scribe a tree monument or bearing tree is to lightly cut the appropriate marks into the bark of the tree without blazing. In the case of certain smooth and thin barked trees, marks thus made will last as long as the tree remains sound. See **BLAZE**.

BAROMETER - An instrument for measuring atmospheric pressure.

BAROMETRIC LEVELING - Determining elevations by use of altimeters or barometers.

BASE LANDS - In a lieu selection or exchange, the lands to which the applicant relinquishes his rights as a basis for his selection. See **LIEU SELECTION**.

BASELINE - A line fixed by sovereigns along their coasts which is fundamental toward determining the seaward extent of the boundaries. See **RULE OF TIDEMARK**, **STRAIGHT BASELINE**.

BASELINE - "The base line is extended east and west from the initial point on a true parallel of latitude." (BLM 1973, paragraph 3-10.)

BASE PLAT - A drawing containing only those details essential to the identification of the legal subdivisions shown on it. Under the manuals of surveying instruction preceding that of 1930, the base plat also contained all

cultural and topographic features thought to be desirable. The 1930 and 1947 Manuals of Surveying Instructions called for the use of transparent color overlays to show these features when required. Overprints are not needed where such features may be readily shown on the base drawing without risk of obscuring any essential cadastral data. Color overlays have been used with base plats of areas surveyed by photogrammetric methods.

BASIN - The entire area drained by a main stream and its tributaries.

BASIS PARALLEL - The Base Line, as termed in early surveys.

BATTURE - A marine term, used to denote a bottom of sand, stone or rock mixed together and rising towards the surface of the water; but it is sometimes used to signify the island formed when it has risen above the surface of ordinary high water. Batture differs from alluvium in that batture is the addition of soil to the bed of a stream or lake, while alluvium is an addition to the shores. Hence by reason of such fact the ownership thereof is determined largely along a different line. Both "batture" and alluvium are often referred to as "accretions." Technically however, the term "accretion" refers to the legal result occurring from the effect of the deposit of alluvium and batture.

BEACH (T.R. No. 4) - The zone of unconsolidated material that extends landward from the low water line to the place where there is marked change in material or physiographic form or to the line of permanent vegetation (usually the effective limit of storm waves). The seaward limit of the beach- unless otherwise specified-is the mean low water line. A beach includes foreshore and backshore. (Refer to Figure 1). See **SHORE**, **FORESHORE**, **BACKSHORE**, **TIDELANDS**.)

BEARING - The horizontal angle which a line makes with the meridian of reference adjacent to the quadrant in which the line lies. Bearings are classified according to the meridian of reference, as: astronomic, geodetic, magnetic, grid, assumed, etc. When no reference is specified on a plat or in a document, astronomic meridian is presumed. A bearing is identified by naming the end of the meridian from which it is reckoned, either north or south, and the direction of that reckoning, either east or west. Thus, a line in the northeast quadrant making an angle of 50° from the reference meridian will have a bearing of N. 50° E.

BEARING OBJECT - A corner accessory which may be a natural object that can be readily identified by its distance and direction from the corner being recorded. These objects may not be of a character that can be marked, but in the case of a rock cliff or boulder a cross mark and the letters "BO" will be chiseled into the bearing object. The record should be clear enough to enable another surveyor to determine just where the marks will be found. The rock bearing object is the most permanent of all accessories; it is used wherever practicable, and within a distance of 5 chains. A connection to any permanent artificial object or improvement may be included in this general class of corner accessories. The field notes should be explicit in describing such objects, and indicate the exact point to which a connection is made, as "pipe of Smith's Windmill." No marks are made on private property. See **BEARING TREE**, **MOUND AND PITS**, **LAND MARK**, **ACCESSORIES**, **CORNER**.

BEARING TREE - A marked tree used as a corner accessory; its distance and direction from the corner being recorded. Bearing trees are identified by prescribed marks cut into their trunks; the species and sizes of the trees are also recorded.

BED - In mining, a stratum in the earth's crust which has been formed in an approximately horizontal layer. If of rock, it is termed "bedrock." Also See **BEDS OF NONNAVIGABLE LAKES AND STREAMS**.

BEDS OF NONNAVIGABLE LAKES AND STREAMS - The areas within the mean high-water lines of a lake, stream or river which are kept practically bare of vegetation from year to year by the wash of the waters; although parts of them are left dry for months at a time. Title to the beds of nonnavigable bodies of water remains in the United States until the shore lands have passed into private ownership. See **PROTRACTION**, **RIPARIAN BOUNDARIES** and **PARTITION LINES**.

BLACK HILLS MERIDIAN - The principal meridian governing surveys in the western part of South Dakota, it was established in 1878.

BLANK LINE - 1) Where bearings and distances are shown, for information purposes only, across areas not then subject to survey. 2) In Manual of Surveying Instructions 1834, "thence north on a blank line;..." appears used as a random line in specimen field notes.

BLAZE - A mark made upon a tree trunk usually at about breast height. The bark and a small amount of the live wood are removed with an axe or other cutting tool, leaving a flat, smoothed surface which forever brands the tree. On rough-barked tree monuments or bearing trees the appropriate marks are scribed into a smooth, narrow, vertical blaze the lower end of which is about 6 inches above the root crown. The blaze should be just long enough to allow the markings to be made. See **OVERGROWTH**.

BLAZED LINE - A sufficient number of trees differing from line trees in that they stand within 50 links of and on either side of the line, rather than being intersected by it, are blazed on two sides quartering toward the line. This is done to make the survey line more conspicuous and readily traced in either direction. The blazes are made opposite each other coinciding in direction with the line where the trees stand very near it. They are made closer to each other, toward the line, the farther they are from the line. R.S. sec. 2395; 43 U.S.C. 751 is the law authorizing the marking of trees along surveyed lines, and its requirements are as positive in this matter as are those requiring the erection of monuments. See **LINE TREE**.

BLOCK - A subdivision of a town site.

BOARD OF LAND APPEALS - Under the direction of a Board Chairman, the board exercises jurisdiction over cases involving appeals from decisions rendered by departmental officials relating to the use and disposition of public lands and their resources and the use and disposition of mineral resources in certain acquired lands and in the submerged lands of the Outer Continental Shelf. Persons adversely affected by a decision of a BLM officer or examiner have the right to appeal to the board. The Board is in the Office of Hearings and Appeals, the Office of the Secretary of the Department of the Interior, as provided at 35 F.R. 10010, June 18, 1970-43 C.F.R. 1842.2 (Now 43 C.F.R. part 4). Decisions of the Board on such appeals shall be final for the Department.

BOG - A shallow, low-lying, virtually undrained body of water, where partially decayed vegetation accumulates on the bottom and on the surface to form a mat. Mosses, sedges, grasslike plants and small shrubs eventually take root in the surface mat forming a "boggy" or spongy form of ground. In an advanced stage the water area becomes completely filled and may become what is known as a "peat bog". See **MARSH** and **SWAMP**.

BOISE MERIDIAN - The principal meridian governing surveys in Idaho; it was established in 1867.

BONA FIDE - In or with good faith; honestly, openly and sincerely. Without deceit or fraud. Actual and genuine.

BONA FIDE RIGHTS - Rights, such as in ownership of land, which are real, actual, genuine and worthy of acceptance. Rights acquired in good faith under the law.

BOUNDARIES, NATIONAL - Boundaries between countries are established by treaties made by the sovereign powers concerned.

BOUNDARIES, STATE - A boundary between two States of the United States may be changed by agreement of the State legislatures, but this agreement must be approved by Congress. The United States Congress cannot change a State boundary without the consent of the State, nor can two States by mutual agreement change their common boundary without the consent of Congress. The consent of Congress to change a boundary need not be granted by a special act but may be inferred from subsequent legislation. Several times Congress has given its consent in advance for adjoining States to fix an indefinite water boundary between them. A boundary between a State and a territory is fixed by

joint action of Congress and the State. Boundaries between territories are fixed by congressional action alone. Disputes between States regarding boundaries must be settled by the United States Supreme Court, whose decisions are final. It is a well-established principle, recognized by the courts and by Congress, that a State or national boundary line as marked on the ground and accepted by the parties interested is the legal boundary for all purposes whether or not it is the place designated by statute. Nearly all boundaries of States west of the Mississippi, as well as those of many central and southern States, were surveyed under the direction of the General Land Office. Notes of all such surveys, and plats for most of them, are now on file in the Bureau of Land Management, Dept. of Interior, or in the Cartographic Records Div., National Archives and Records Service, Washington, D.C.

BOUNDARY, LAND - A line of demarcation between adjoining parcels of land. The parcels of land may be of the same or of different ownership, but distinguished at some time in the history of their descent by separate legal descriptions. A land boundary may be marked on the ground by material monuments placed primarily for the purpose; by fences, roads, and other service structures along the line-or defined by astronomically described points and lines.

BOUNDARY LINE - A line along which two areas meet. A boundary line between privately owned parcels of land is usually termed a property line. If a boundary is a line of the United States public land surveys, it is given a particular designation, such as section line or township line.

BOUNDARY MONUMENT - A material object placed on or near a boundary line to preserve and identify the location of the boundary line on the ground.

BOUNTY LANDS - Portions of the public domain given or donated as a bounty for services rendered, chiefly for military service. See 43 U.S.C.A., sec. 791.

BROKEN BOUNDARY - 1) A boundary of the rectangular system which is a series of line segments representing a boundary which is not a straight line. 2) A boundary consisting of straight line segments which is not part of the rectangular system.

BROKEN BOUNDARY ADJUSTMENT - A general term which indicates a distribution of a closing error. Included are: (1) A mathematical adjustment applied to record meander courses which have since become nonriparian; is identical to the compass rule. (2) A mathematical adjustment applied to the record courses of a grant or reservation boundary; it is a rotation and scale change that will retain the original angles and change the lengths of each line segment proportionately according to the record. See GRANT, IRREGULAR BOUNDARY, NON RIPARIAN BROKEN BOUNDARY ADJUSTMENT, ADJUSTMENT.

BUREAU OF LAND MANAGEMENT, THE - An agency of the Department of the Interior, it was created July 16, 1946, pursuant to Presidential Reorganization Plan No. 3 of 1946, which consolidated the functions and activities of the General Land Office and the Grazing Service.

C

CADASTRAL ENGINEER - A former title of a Cadastral Surveyor or Land Surveyor in the Bureau of Land Management and the General Land Office.

CADASTRAL ENGINEERING STAFF OFFICER - Former title of the Chief, Division of Cadastral Surveys.

CADASTRAL SURVEY - A survey which creates, marks, defines, retraces or reestablishes the boundaries and subdivisions of the public lands of the United States.

CADASTRAL SURVEY APPROVAL AUTHORITY - Prior to becoming an official cadastral survey the field notes must be approved and the plat, field notes and survey must be accepted on behalf of the Director of the Bureau of Land Management by the officer to whom he has delegated this responsibility. See **OFFICIAL CADASTRAL SURVEY**.

CADASTRAL SURVEY AUTHORITY - The authority derived from the statutory directive (43 U.S.C. 2) that "The Secretary of the Interior or such of officer as he may designate shall perform all executive duties appertaining to the surveying...of the public lands." Other statutory declarations affecting the cadastral survey program are: 25 U.S.C.29 and 30; 43 U.S.C. 52-60,751-775 and 1364.

CALL - A reference to, or statement of, an object, course, distance or other matter of description in a survey or grant requiring or calling for a corresponding object, or other matter of description, on the land. See **PASSING CALLS**.

CANAL GRANT - A grant made to a State to aid in the construction of canals.

CANCELLATION - The annulment of a formerly accepted survey. This action may be taken only by the Director of the BLM or an appointed representative, usually the chief of the branch or division of cadastral surveys. This action applies to public lands and requires ample justification such as showing gross irregularities. This action applies only to public lands and has no bearing on the identification of the alienated subdivisions described in terms of the prior survey (BLM Glossary, 1980, page 9).

CANCELLATION (Lands) - An abrogation of a right in the public lands because of noncompliance with the public land laws or because of expiration of time limits. See **ABROGATE**.

CARDINAL - The cardinal directions; north, south, east and west.

CAREY ACTS - The acts of August 18, 1894 (28 State 372), and March 15,1910 (36 Stat.237,43 U.S.C. sec. 643), which provide for grants of desert lands to States for disposition to bona fide settlers.

CASH CERTIFICATE - A final certificate issued in connection with a cash entry.

CASH ENTRY - An entry that covered public lands for which the entryman paid cash or its equivalent.

CEDED INDIAN LANDS - Public lands, Indian tribal title to which was relinquished to the United States by the Indians on condition that part or all of the proceeds from their sale or other disposition would be covered in the Treasury in trust for the Indians.

CEMETERY-SITE ENTRY - A cash entry of public lands which are to be used for cemetery purposes.

CENTER QUARTER-SECTION CORNER - A special case of a quarter-corner. "To subdivide a section into quarter sections, run straight lines from established quarter-section corners to the opposite quarter-section corners. The point of intersection of the lines thus run will be the corner common to several quarter sections, or the legal center of section." (BLM 1973, paragraph 3-87). The above definition is sometimes termed the "federal center quarter-section

corner" and applies to BLM cadastral surveys. In some states alternate methods of section subdivision may be used and a non-federal method center quarter-section corner determined. In some cases, such as completion surveys, it is possible for one section to appear to have more than one center quarter-section corner.

CENTERLINE - The line connecting opposite corresponding quarter corners or opposite subdivision-of-section corners or their theoretical positions. Applied to a street, right of way or any other strip of land of uniform width "centerline" defines the line midway between the side lines of said strip. See **END LINE**, **SIDE LINE**.

CERTIFICATE OF APPROVAL - A written statement certifying that the field notes of a cadastral survey have been critically examined and found correct, and are thereby approved. It is a statement that follows, and is a part of the same document as, a "certificate of survey". It is dated and signed by the Chief, Division of Cadastral Survey. See **CERTIFICATE OF SURVEY** and **CERTIFICATE OF TRANSCRIPT**.

CERTIFICATE OF COMPLIANCE - See **FINAL CERTIFICATE**.

CERTIFICATE OF SURVEY - A document containing a statement dated and signed by a cadastral surveyor to the effect that a survey has been executed in strict conformity with the special instructions, the Manual of Instructions, and in the specific manner described in the field notes with which it is filed. See **CERTIFICATE OF APPROVAL** and **CERTIFICATE OF TRANSCRIPT**.

CERTIFICATE OF TRANSCRIPT - A statement dated and signed by the Chief, Division of Cadastral Surveys as to the accuracy of the transcript of the original field notes of a particular survey. The certificate is a part of the same document as the "certificate of survey" and the "certificate of approval." See **CERTIFICATE OF SURVEY**, **CERTIFICATE OF APPROVAL**.

CERTIFICATION - The act of final approval of a State selection by the Director of the BLM; also, the document which passes title to the selected lands to the State; also, a document which attests to the truth or authenticity of papers attached to it.

CERTIORARI - A written instruction issued by a higher court to a lower court requiring the records of a trial be submitted for review or inquiry. If such higher court finds no reason to re-examine the records based on arguments submitted by attorneys, the ruling of the court is "Certiorari denied."

CESSION OF PUBLIC DOMAIN - See **ORIGINAL PUBLIC DOMAIN ACQUISITIONS**.

CHAIN - The unit of length prescribed by law for the survey of the public lands of the United States. The chain is equivalent to 66 feet or 4 rods, poles or perches. 10 square chains equals one acre.

CHAINING - The operation of measuring a distance on the earth, using a chain or tape. The corresponding operation, in private surveys, is taping.

CHAINMEN - Those who measure and record the distances in chaining.

CHAIN OF TITLE - A term applied metaphorically to the series of conveyances, or other forms of alienation, affecting a particular parcel of land, arranged consecutively from the Government or original source of title down to the present holder, each of the instruments included being termed a "link."

CHANCERY - See **EQUITY**.

CHANNEL (T. R. No. 4) - 1) A natural or artificial waterway of perceptible extent which either periodically or continuously contains moving water, or which forms a connecting link between two bodies of water; 2) The part of a body of water deep enough to be used for navigation through an area otherwise too shallow for navigation; 3) A large strait, as the English Channel; 4) the deepest portion of a stream, bay, or strait through which the main volume or current of water flows. See **CHANNEL**, **MAIN**; **GRADIENT BOUNDARY**; **THALWEG**; **RULE OF THALWEG**.

CHANNEL, MAIN - As called for as a boundary between Nations or States, the "main channel" of a navigable stream refers to the deepest and most navigable channel as it existed at the time the boundary was surveyed. In the Red River case of Oklahoma vs. Texas in 1923 (260 US 606, 261 US 340, 265 US 493), which involved a non-navigable river, the Supreme Court of the United States declared by unprecedented action that the Texas Oklahoma boundary was to be determined by a medial line between gradient lines on each bank. It was decided that the "...channel extending from one cut-bank to the other, which carries the water in times of a substantial flow....was the only real channel and therefore the main channel. -So its medial line must be what was designated as the boundary. " (Oklahoma vs Texas, 258 US 574). If the river had been navigable, the "rule of thalweg" would have applied, but that section of the Red River is, in fact, not navigable. See MEDIAL LINE, RULE OF THALWEG, GRADIENT BOUNDARY, RED RIVER CASE.

CHICKASAW MERIDIAN - The principal meridian which governs surveys in the northern part of Mississippi; it was established in 1833.

CHIEF, DIVISION OF CADASTRAL SURVEYS - The current title of the BLM officer charged with the survey of the public lands. The title of this officer has changed and evolved over the years since the passage of the Ordinance of May 20, 1785. It has been Geographer of the United States; Surveyor General of the United States; United States Supervisor of Surveys; Chief, Branch of Cadastral Surveys and Cadastral Engineering Staff Officer.

CHOCKTAW MERIDIAN - The principal meridian governing surveys in the central part of Mississippi; it was established in 1821.

CHORD - In surveying and geometry a straight line joining any two points on an arc, curve, circumference, or surface.

CIMARRON MERIDIAN - The principal meridian which governs surveys in the Oklahoma panhandle; it was established in 1881.

CLAIMANT - An individual, corporation, association, State or local government, etc., asserting title to, or rights in, public lands.

CLAIM JUMPING - Illegally taking possession of a mining claim previously staked by and in legal possession of another. Prior to the passage of statutory laws mining claims, claim jumping sometimes took the simple form of staking governing over another person's claim and then holding it by force. See RELOCATION.

CLASSIFICATION - Designation of public lands as being valuable or suitable for specific purposes, uses, or resources See LAND, MINERAL, POWER SITE, and SMALL TRACT.

CLASSIFICATION WITHDRAWAL - A withdrawal of public lands which is made pending examination of the lands to determine their suitability for certain purposes and for classification for those purposes.

CLEAR LIST - A selected list of public lands which has been prepared for approval by the Secretary of the Interior or the Director of the Bureau of Land Management also, an official statement from an interested Federal agency or official which indicates that no apparent objection exists to a proposed action with respect to public lands.

CLEAR LIST, APPROVED - An approved clear list or certification is used to convey legal title to lands under certain grants made by Congress An approved clear list conveys a fee-simple title to public lands identified in a selection list made by a State and approved by the Bureau of Land Management.

CLINOMETER - A hand held instrument used to measure vertical angles or the inclination of a slope Also called an Abney Level.

CLOSED LAND STATES - The public land States in which records have been turned over to the State except for the State of Washington wherein the records are kept in Portland, Oregon, viz., Alabama, Arkansas, Florida, Illinois, Indiana, Iowa, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska,

North Dakota, Ohio, Oklahoma, South Dakota, and Wisconsin.

CLOSED TRAVERSE - A traverse which starts and ends upon the same station or upon stations of known position.

CLOSING CORNER - "Closing corners are intended to be established where a closing line intersects a boundary already fixed in position. While the closing corner thereafter controls the direction of the closing line, a failure to place it at the true intersection does not alter the position of the line closed upon..." (BLM 1973, paragraph 3-73). A closing corner of sections is established where a survey intersects a previously fixed boundary at a point between corners. See **CLOSING SUBDIVISION OF SECTION CORNER**, **CLOSING TOWNSHIP CORNER**, **CROSSING CLOSING CORNER**.

CLOSING ERROR - See **MISCLOSURE**.

CLOSING SUBDIVISION-OF-SECTION CORNER - "Closing corners are intended to be established where a closing line intersects a boundary already fixed in position. While the closing corner thereafter controls the direction of the closing line, a failure to place it at the true intersection does not alter the position of the line closed upon..." (BLM 1973, paragraph 3-73). A closing corner of subdivision of section is established where a rectangular survey section subdivision line, Indian Reservation boundary, or State boundary intersects a previously fixed boundary at a point between corners.

CLOSING CORNER OF TOWNSHIPS - "Closing corners are intended to be established where a closing line intersects a boundary already fixed in position. While the closing corner thereafter controls the direction of the closing line, a failure to place it at the true intersection does not alter the position of the line closed upon..." (BLM 1973, paragraph 3-73). A closing corner of Townships is established where a survey intersects a previously fixed boundary at a point between corners on the township boundary.

CLOSURE - The process of measurement in a closed figure for a check on horizontal or vertical precision.

CLOUD ON TITLE - An outstanding claim or incumbrance which, if valid, would affect or impair the title of the owner of a particular estate. A mortgage judgment or tax levy may in some cases constitute a cloud on title.

COAL DECLARATORY STATEMENT - An affidavit filed by a claimant under now obsolete laws, describing lands known to contain coal deposits. The filing segregated the lands A Cash Entry patent was issued, giving the surface and the minerals to the patentee.

COAL ENTRY - A cash entry, under laws now repealed, covering public lands which contain valuable coal deposits or covering such coal deposits only.

COAL LANDS - Surveyed public lands chiefly valuable for their deposits of coal.

COAL LICENSE - An authorization to mine coal on the public lands free of charge for local domestic use.

COAL SURVEY - Coal lands are surveyed public lands chiefly valuable for their deposits of coal. These surveys generally have a number associated with them.

COAST - The zone of land of indefinite width (perhaps 1 to 3 miles) that extends inland from the shore to the first major change in terrain features. See **BEACH**, **BACKSHORE**, **FORESHORE**, **SHORE**.

COASTAL SALT MARSH - A marsh located along or near the sea coast, the surface of which lies below the elevation of mean high water. See **SWAMP**, **SWAMP AND OVERFLOWED LANDS**, **MARSH**, **TIDELANDS**.

COASTLINE - Technically, the line that forms the boundary between the coast and the shore and marks the seaward limit of the permanently exposed coast. The U.S.C.&G.S. (now N.O.S.) uses the words "coastline" and "shoreline" as synonymous and defines these as being the mean high water line. In the

Submerged Lands Act, 43 U.S.C. 1301 (c): "The term "coast line" means the line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the seaward limit of inland waters". When using the term "coastline" the user should specify what line is intended. See BEACH, SHORE, SHORE LINE, FORESHORE, BACKSHORE, MEAN HIGH WATER, TIDE LANDS, INLAND WATERS.

CODICIL - A supplement or an addition to a will.

COLLATERAL EVIDENCE - Additional or auxiliary evidence. Accompanying or acting as secondary evidence. Evidence which supports or reinforces evidence already in hand. See EVIDENCE.

COLLATERAL EVIDENCE (CADASTRAL SURVEY) - Such things as acts and testimony of interested landowners, competent surveyors, other qualified local authorities or some acceptable record evidence that may be used along with other evidence in identifying the true original position of a corner.

COLOR OF TITLE - If a claim to a piece of real property is based upon some written instrument, although a defective one, the person is said to have "color of title." A claim which has as its basis that which the law considers prima facie a good title, but which, by reason of some defect not appearing on its face, is not in fact a title. Federal withdrawn land is not subject to the Color-of-Title Act. See COLOR-OF-TITLE ACT, COLOR-OF-TITLE ENTRY, and PRIMA FACIE.

COLOR-OF-TITLE ACT - The Act of December 22, 1928 (43 U.S.C., see. 1068), as amended. Under the terms of and provisions of this act, a patent may be issued for a parcel of not more than 160 acres of public lands. The land must have been possessed in good faith by a claimant, his ancestors or grantors for a period of more than 20 years. See ADVERSE POSSESSION, COLOR OF TITLE, COLOR-OF-TITLE ENTRY.

COLOR-OF-TITLE ENTRY - A cash entry made by an entryman relying upon erroneous evidence of title. The Color-of-Title Act provides for this type of entry. However, land attaching to Federal withdrawn land by accretion becomes withdrawn and is not public land subject to color-of-title applications even when later separated from the withdrawn land by avulsion. See COLOR OF TITLE, ACCRETION, AVULSION, COLOR OF TITLE ACT, and WITHDRAWAL.

COMMISSIONER OF THE GENERAL LAND OFFICE - The official who was the head of the General Land Office. See GENERAL LAND OFFICE.

COMMUNITIZATION AGREEMENT - A contractual arrangement which combines separate land holdings for purposes of drilling for oil and gas.

COMMUNITY WATERSHED - An obsolete term which identified watershed planning areas. An area selected for such study is now simply a "Watershed Area"

COMMUTED HOMESTEAD ENTRY - For certain classes of homestead entries it was possible to substitute payment of the minimum statutory price for part of another form of "payment" which consisted of residence for a certain number of years and/or other requirements. This substitution of one form of payment for another is called commutation.

COMPASS SURVEY - A survey, which was executed using the magnetic compass.

COMPASS RULE - See NON RIPARIAN BROKEN BOUNDARY ADJUSTMENT.

COMPLETION SURVEY - Executed to finish a partially subdivided township or section, or to finish parts of boundaries of townships or sections which are unsurveyed. See EXTENSION SURVEY.

CONDEMNATION - In real property law, the process by which property of a private owner is taken for public use, without his consent, but upon the award of payment of just compensation. It has the nature of a forced sale and the condemner has the position toward the owner of a buyer toward a seller.

CONFLICT - 1) The overlap of the exterior lines of a claim onto a prior survey

or other senior claim. 2) A variance or disagreement between what is written in the field notes and what is represented on the plat. 3) An apparent disagreement or ambiguity between various parts of the field notes. 4) A different representation on one plat compared to hand drafted copies thereof or compared to plats of adjacent surveys. 5) Any factor in the land status which serves as a bar to approval of an application, particularly an application or entry for similar rights on the same land.

CONFLICTING EVIDENCE - A contradiction or disagreement of the actual ground conditions compared to the record, usually regarding topographic calls or characteristics of corner monumentation. See **EVIDENCE**.

CONFLICTING TESTIMONY - A contradiction or ambiguity of facts, evidence, or statements made previously or made by other witnesses. See **TESTIMONY**.

CONFLUENCE - Literally, flowing together. The joining of two or more streams of water. Considering two major streams, the precise point of confluence is where the flow direction of water along the thread of the smaller stream reasonably parallels and joins the flow in the larger stream. In field notes the point where the thread of a smaller non-meandered stream crosses the meander line of the larger stream is the confluence.

CONFORMED ENTRY - Used in independent resurveys to indicate that an entry according to the original survey agrees with the subdivisional lines of the resurvey, or that the entryman will accept the subdivisional lines of the resurvey as properly locating his claim.

CONNECTED SHEETS - Sometimes called "Connection Sheets," they are diagrams drawn from the official record on a section by section basis, but with peripheral overlap between diagrams. In this way the continuous relationship between irregular land line conditions, particularly mining claims, is shown. These diagrams are not official documents; they are a working index tool of the Bureau of Land Management.

CONNECTING LINE - 1) A survey line connecting one survey to another. Generally used on the older plats and in mineral surveys. 2) A line calculated from beginning to end of a traverse.

CONTERMINOUS UNITED STATES - The 48 contiguous States and the District of Columbia; all of the States which have common boundaries and are not separated by foreign territory or the high seas. The United States, exclusive of Alaska and Hawaii. See **CONTINENTAL UNITED STATES**.

CONTEST - To make defense to an adverse claim in a court of law; to oppose, resist, or dispute the case made by a plaintiff. To strive to win or hold; to controvert, litigate, challenge; to defend, as a suit or other proceeding.

CONTIGUOUS LAND - Generally speaking, two parcels of land having a common boundary line. See **CORNER CONTIGUITY**.

CONTINENTAL CONGRESS - Either of two assemblies of representatives from American colonies during the Revolutionary period. The first of these was held in 1774 to express grievances against British colonial policy; the second convened in 1775, created the Continental Army, issued the Declaration of Independence (1776) and the Articles of Confederation (1778). It operated as the legislative body of the United States for several years.

CONTINENTAL DIVIDE - The ridge in the Rocky Mountain system which divides the waters of the continent.

CONTINENTAL SHELF - The part of a continental mass extending from the shore outward beneath the shallow seas to the continental talus where the bottom slopes down rapidly to the ocean depths.

CONTINENTAL UNITED STATES - Includes the Conterminous United States and the State of Alaska. Hawaii alone of the 50 States is not a part of the continent of North America. See **CONTERMINOUS UNITED STATES**.

CONTOUR - An imaginary line on the ground all points of which are at the same

elevation above or below a specified datum surface.

CONTOUR INTERVAL - The difference in elevation between adjacent contours.

CONTRACT - A binding legal relationship obligating the seller to furnish personal property or nonpersonal services (including construction) and the buyer to pay for them. Contracts include all types of commitments obligating the Government to an expenditure of funds, and are usually in writing.

CONTRACT ADMINISTRATION - The activities involved in enforcing the terms of the contract, and in carrying out the Government's responsibilities as stated in the contract.

CONTRACTING OFFICER - The employee delegated contracting authority who signs a contract in behalf of the Government.

CONTRACTING OFFICER'S AUTHORIZED REPRESENTATIVE - The employee designated in writing by the Contracting Officer to provide contract administrative services.

CONTRACT SYSTEM - The contracting of the public land surveys. Between 1796 and 1910 the public land surveys were executed by deputy surveyors who had entered into contracts with the Surveyors General for the performance of the field work and preparation of the field notes of the surveys. See DIRECT SYSTEM.

CONTROL DOCUMENT - Any legal document which affects the ownership or use of the public lands and resources. See LAND STATUS RECORDS, PATENT.

CONTROL DOCUMENT INDEX - A reference file consisting of microphotographic copies of legal documents mounted in aperture tabulating cards arranged by State, meridian and township. See LAND STATUS RECORDS, CONTROL DOCUMENTS, SERIAL REGISTERS.

CONTROL, GEODETIC - A system of monumented stations having known, precise positions established by geodetic methods.

CONTROL LINES - The primary control of the public land surveys of the United States consists of base lines, standard parallels (correction lines), principal meridians and guide meridians. Among field surveyors a control line is a survey line to the nearest identified corner in directions necessary for restoration of a corner. See OUTBOUNDARIES.

CONTROLLING BOUNDARIES - See OUTBOUNDARIES.

CONTOVERTED - Disputed; denied; opposed or contested.

CONVEY - The act of deeding or transferring title to another.

CONVEYANCE - In real property law, a transfer of legal title to land. An instrument, such as a deed, by which interest in real property is created or by which title to real property is transferred from grantor to grantee.

COORDINATES - A set of numbers used in specifying the location of a point.

COORDINATE SYSTEM - A mathematically defined method for specifying the locations of points. Distances or angles from suitable references locate the points within the system.

COOS BAY EXCHANGE - See O&C EXCHANGE.

COOS BAY HOMESTEAD ENTRY - A homestead entry, not exceeding 160 acres, on Coos Bay Wagon Road lands which are agricultural in character.

COOS BAY WAGON ROAD LANDS - Public lands in western Oregon which were granted to the State of Oregon to aid in the construction of the Coos Bay Military Wagon Road, but which were later forfeited and returned to the Federal Government by reconveyance. See OREGON AND CALIFORNIA REVESTED LANDS ADMINISTRATION.

COPPER RIVER MERIDIAN - The principal meridian governing surveys in the southeastern part of Alaska; it was adopted in 1905.

COPPERWELD - A brand-name for a copper coated steel rod with a brass cap which may be authorized for use in monumentation of corners in certain areas where the use of a regulation iron post is not practical.

CORNER - A point on the surface of the earth, determined by the surveying process, which defines an extremity on a boundary of the public lands.

CORNER ACCESSORIES - Nearby physical objects to which corners are referenced for their future identification or restoration. Accessories include bearing trees, mounds, pits, ledges, rocks and other natural features to which distances or directions (or both) from the corner or monument are known. Such accessories are actually a part of the monumentation. See BEARING TREE, BEARING OBJECT, MOUNDS AND PITS and LANDMARK.

CORNER CONTIGUITY - When parcels of land or mining claims have angle points (corners) in common-though they do not share a common boundary line-they are said to have "corner contiguity."

CORNER DESCRIPTION - The specific data (both old and new) about a corner monument and its accessories which include marks, positions, and physical characteristics.

CORNER MONUMENT MARKINGS - Letters, numerals, lines, grooves or notches used to mark corner monuments. The markings usually indicate the location of the corner.

CORNER MOVE - The computed directions and distances FROM a temporary point TO the true point for a corner as computed from the retracement data. See RANDOM LINE.

CORNER OF MAXIMUM CONTROL - A section corner of maximum control fixes the position of, or controls, the position of four sections; likewise, a township corner of maximum control, controls four townships. A quarter-section corner of maximum control, controls the subdivision of two sections. See CORNER OF MINIMUM CONTROL.

CORNER OF MINIMUM CONTROL - A section corner of minimum control fixes the position of, or controls, less than four sections; likewise, a township corner of minimum control, controls less than four townships. A quarter-section corner of minimum control fixes the subdivisions of one section only. See CORNER OF MAXIMUM CONTROL.

CORPOREAL PROPERTY - Property which may be seen and touched, as distinguished from incorporeal property which exists only in contemplation. A house is corporeal, but annual rent which may be payable for its occupation by another is incorporeal. See INCORPOREAL PROPERTY.

CORRECTION LINE - See STANDARD PARALLEL.

CORRECTIVE RESURVEY - A survey made to correct an erroneous omission of original corner evidence discovered after a survey has been approved.

CORRESPONDING CORNERS - Opposite, like corners of a subdivisional unit which control the subdivision of that unit.

CORROBORATING EVIDENCE - Evidence supplementary to that already given and tending to strengthen or confirm it. Additional evidence of a different character to the same point. See COLLATERAL EVIDENCE and COLLATERAL EVIDENCE (CADASTRAL SURVEY).

COUNTRY ROCK - The rock beyond the walls of a lode. The strata between or across which the lode is found.

COURSE - In surveying; the direction of a line with reference to a meridian; also, the direction of flow of the water in a stream. See BEARING.

COURTHOUSE-SITE RESERVE - A reservation of public lands in Alaska in territorial days for use as a Territorial Courthouse site.

COURTS OF CHANCERY - See **COURTS OF EQUITY**.

COURTS OF EQUITY - Courts which administer justice according to the system of equity, and according to the rules, principles and procedures of chancery; as distinguished from a court having the jurisdiction, rules, principles and practice of the common law. The terms "chancery" and "equity" and "court of chancery" and "court of equity" are used as synonymous in the United States, probably because the jurisdiction exercised by courts of equity is similar to that of the English chancery courts. In some States, courts called chancery courts possess general equity powers.

CROSSCUT - Something that cuts across or through. Specifically: a mine working driven horizontally and at right angles to an adit, drift or level.

CROSSING CLOSING CORNER - A term used to describe a corner set where a township or section line intersects (crosses) the line of a surveyed mineral claim, forest homestead claim, small holding claim or the like. "A closing corner monument is not set at intersection with the line of a surveyed mineral claim, forest homestead claim, small holding claim or the like, unless required to provide an interval of monumentation of one half mile or less. In instances crossing closing corners may be needed for operational or litigation purposes, in which event they should be provided for in the special instructions." (BLM 1973, paragraph 3-71.)

CURATIVE PATENT - See **PATENT, CURATIVE**.

CURTESY - The right which a husband has in his wife's estate at her death. The state to which by common law a man is entitled, on the death of his wife, in the lands or tenements of which she is seised in possession in fee-simple or in tail during her coverture, provided they have had lawful issue born alive which might be capable of inheriting the estate. It is a freehold estate for the term of his natural life. See **DOWER**.

CUT - 1) Depth to which material is to be excavated (cut) to being the surface to a predetermined grade Therefore, the cut is the difference in elevation of a surface point and a point on the proposed subgrade vertically below it. 2) The name applied to the excavated area itself.

CUT TAPE - A survey tape on which the minor graduation are placed only between zero and one unit.

D

DANGER ZONE - In regard to the rectangular limits of township boundaries, the "danger zone" is placed at theoretical bearings exceeding 14 minutes of arc from cardinal. In respect to lengths of lines, the "danger zone" occurs when adjustments exceed 33 links per mile, as defined in Manual of Surveying Instructions.

DATUM - A datum is "any numerical or geometrical quantity or set of quantities which may serve as a reference or base for other quantities" (ACSM, 1978, page 49). In measurement science datum consists of a reference spheroid and a set of equations or relations to develop a coordinate system. Local or assumed datums are usually tangent plane based and defined with respect to one of the formalized datums. See GEODETIC DATUM, TIDAL DATUM, MEAN SEA LEVEL.

DECISION - A decision is the reduction to writing of the adjudicative process. A decision orders the disposition of a case in a certain way, and contains a statement of the facts, laws and reasoning which require that disposition.

DECLINATION - An angle of difference. See MAGNETIC DECLINATION, MAGNETIC VARIATION.

DECLINATION, ASTRONOMIC - The angular distance of a celestial body north or south of the celestial equator. Astronomic declination on the celestial sphere corresponds with latitude on the earth. It is noted as positive (+) when north and negative (-) when south of the celestial equator.

DEED - A document which transfers title to real property. In those instances where a complicated metes and bounds description is the only description available, a deed may be used to transfer fee-simple interest in public lands. A patent would be issued under normal conditions where a cadastral survey plat shows a description by legal subdivisions. See PATENT, WARRANTY, BARGAIN AND SALE, QUITCLAIM DEED, and DESCRIPTION BY LEGAL SUBDIVISIONS.

DEFENDANT - The person defending or denying; the party against whom relief or recovery is sought in an action or suit. See PLAINTIFF.

DEFICIENCY - The amount by which a boundary is less than the nominal amount which is usually 80 chains.

DEFLECTION ANGLE - The angular difference from a straight line at an angle point in a traverse.

DE MINIMIS NON CURAT LEX - The law does not care for, or take notice of, very small or trifling matters; the law does not concern itself about trifles. A surveyor's return of 29 inches length for a location monument should be considered a trifling difference. See RULE OF APPROXIMATION.

DEMUR - To take exception. To make an objection. To present a demurrer. See DEMURRER.

DEMURRER - An answer to a legal action that assumes the truth of the matter alleged by the opposite party. It then sets up the defense that the complaint is insufficient in law to sustain his claim or that there is some other defect constituting a legal reason why the opposing party should not be allowed to proceed further. Also, one who demurs.

DEPARTURE - The east-west component of a traverse course

DEPENDENT RESURVEY - A retracement and reestablishment of the lines of the original survey in their true original positions according to the best available evidence of the positions of the original corners (BLM, 1973, paragraph 6-4). See RESURVEY, INDEPENDENT RESURVEY, RETRACEMENT, and RESTORATION.

DEPOSIT - In mining, a quantity of mineral substances occurring naturally in the earth; as, a deposit of gold, oil, etc.

DEPOSIT SURVEY - A cadastral survey made under certain public land laws which

allow or require that the claimant make a deposit of money in the estimated amount of the cost of the survey.

DEPOSITION - The testimony of a witness taken under oath and reduced to writing, authenticated, and intended to be used upon the trial of an action in court. A written declaration under oath, made upon notice to the adverse party for the purpose of enabling him to attend and cross-examine; or upon written interrogatories. It is the giving of notice to the adverse party which especially distinguishes a deposition from an affidavit. See AFFIDAVIT, INTERROGATORIES.

DEPUTY SURVEYOR - A surveyor who entered into a contract to survey a portion of the public lands under the system in existence prior to 1910 was commissioned by the Surveyor General as his deputy. See CONTRACT SYSTEM.

DERELICTION - Same as Reliction.

DESCRIPTION - See CORNER DESCRIPTION, LEGAL DESCRIPTION.

DESCRIPTION BY LEGAL SUBDIVISION - Definition of a unit or units of land with reference to the rectangular system; for example, Lot 3 and SE1/4 NW1/4 sec. 6, T. 8 N., R. 20 W., 5th Prin. Mer., Arkansas.

DESERT-LAND APPLICATION, STATE - An application filed by a State for a grant of desert land for the purpose of disposal to bona fide settlers. See CAREY ACTS.

DESERT LAND ENTRY - An entry of irrigable arid agricultural public lands, under the terms of the Act of March 3, 1877, as amended, for the purpose of reclamation, irrigation and cultivation in part.

DESERT-LAND SEGREGATION, STATE - Arid public lands which have been selected by a State under the Carey Acts and which are set aside pending completion under State direction of an irrigation system to reclaim the lands.

DIAGRAM, TOWNSHIP OR SECTION - A standardized drawing of a township or of a section which shows the major legal subdivisions.

DICTA - Opinions of a judge which are beside the point of a case at issue before the court. See OBITER DICTUM.

DICTUM - A remark by the way. Generally, the word "dictum" is used as an abbreviated form of "Obiter dictum." See OBITER DICTUM.

DIGITAL MAPPING - The process of generating a map using computer-processed data in numerical form.

DIGITIZING - The conversion of a space relationship or measurement to numerical values in which mapping or cross-section data is converted to punch card form by a transducer and digitizer coupled to a recording system.

DIKE - 1) (noun) An embankment or barrier constructed to hold water out of a low-lying area, or to hold water within an area. 2) (verb) To surround, protect, or enclose with such an embankment. 3) (in geology) A sheet like intrusion of magma forced upward through fissures in the earth's crust and hardened to a tabular mass of igneous rock. A volcanic dike may vary from a few inches to hundreds of feet in horizontal thickness. See LEVEE, GROIN.

DIRECT - 1) A transit observation on the sun used for computing bearing as opposed to use of the solar instrument. 2) The normal position of the transit's telescope. See DIRECT MEASUREMENT.

DIRECT MEASUREMENT - Determination of a distance by physical comparison or accumulation of distance using a device calibrated in some unit of measure. See INDIRECT MEASUREMENT.

DIRECT TIE - A connection to another survey point by physical measurement. See DIRECT MEASUREMENT.

DIRECTOR - The present title of the official who is head of the Bureau of Land Management. Functions formerly assigned to the Commissioner of the General Land Office and to the Director of the Grazing Service are a part of this official's responsibility.

DIRECT SYSTEM - The Interior Department appropriation Act of 1911 (June 25, 1910, 36 Stat. 703, 740), provided, under "Surveying the Public Lands": "The surveys and resurveys to be made by such competent surveyors as the Secretary of the Interior may select,..." This provision ended the practice of letting contracts for the surveys of the public lands, and required the "direct" hiring of a permanent corps of cadastral surveyors. See **CONTRACT SYSTEM**.

DIRECTION - "Direction is the angle between a line and an arbitrary chosen reference line. When the reference line is north or south and the angle is designated east or west, the direction is called the bearing. When the reference line is north or south the direction is called azimuth." (ACSM, 1978, Definition of Surveying Terms, page 55).

DIRTY SHEET - A slang term for a sketch showing the current progress and details of the field work of a cadastral survey.

DISCOVERY - In mining law, as the basis of the right to locate a mining claim upon the public domain, discovery means the finding of mineralized rock in place. Also, the physical exposure of the mineral vein or lode or other mineral deposit on the ground. See **VEIN**, **DISCOVERY**, and **POINT OF DISCOVERY**.

DISPOSAL, LAND - A transaction which leads to the transfer of title to public lands from the Federal Government.

DISPOSITION - A transaction which leads to the transfer of public lands, and/or resources in these lands, from the Federal Government.

DISTANCE, PARENTHETICAL - See **PARENTHETICAL DISTANCE**.

DISTORTION - A greater than usual change in bearings and distances of the original survey which is reflected by a retracement or resurvey.

DISTRICT (BLM) - The primary administrative division of a State Director's geographic area of responsibility. A geographic area composed of at least two (typically three or four) resource areas under the supervision of a District Manager. See **DISTRICT MANAGER AND RESOURCE AREA**.

DISTRICT MANAGER (BLM) - The principal Bureau official at the district level. He is directly accountable to the State Director. See **STATE DIRECTOR**.

DISTRICT OFFICES (BLM) - The States and cities in which BLM district offices are located.

DITCHES AND/OR CANALS - Used to indicate a reservation to the United States of a right, or an easement for the construction and maintenance of ditches or canals, as stated in a particular patent.

DIURNAL - Daily. Usually used in reference to a natural phenomenon which occurs only once in a given day.

DIVEST - To deprive; take away or withdraw. Usually spoken of in reference to depriving or dispossessing one of property, title or authority.

DIVIDE - A ridge or area of elevated land between two basins or valleys. See **CONTINENTAL DIVIDE**, **HYDROGRAPHIC DIVIDE** and **RIDGE TOP**.

DIVISION LINE BETWEEN A BOG AND AN UPLAND AREA - The line where the area occupied by a shallow, virtually undrained bog area meets mineral soil, which lies above ordinary high water. If upland vegetation is present, the inference will be that it has been an upland site for the period equal to the age of the vegetation. See **BOG** and **UPLANDS**.

DIVISION LINE BETWEEN A MEANDERABLE BODY OF WATER AND A SWAMP - The line where the area occupied by the water for the greater part of each average year meets

the area where the types of vegetation occur which may normally be found only within the swamp zone. For example, while certain varieties of trees are found only in up land situations, other varieties and other types of vegetation may be found only within the zone of the swamp. All such vegetation normally ends at the margin of permanent water. See SWAMP.

DIVISION LINE BETWEEN A SWAMP AND AN UPLAND AREA - The line where an area lying above the ordinary high water elevation meets an area of low, wet land of such character that without the construction of artificial reclamation methods it would be wet and unfit for agriculture. See SWAMP, MARSH, BOG, SALT MARSH, SWAMP AND OVERFLOWED LANDS, and UPLANDS.

DOCUMENT - 1) An instrument on which is recorded, by means of letters, figures, marks or symbols, information which may be relied upon as the basis, proof or support of something. A deed, agreement, title paper, letter or other written instrument used to prove a fact. 2) To furnish written evidence. To provide with factual or substantial support for statements made or a hypothesis proposed; especially, to equip with exact references to authoritative supporting information.

DOMESDAY-BOOK (Sometimes Domesday-Book) - A record of a survey of English lands made by order of William the Conqueror. It was begun in 1081 and finished in 1086. It is a description of the land, with the names of the owners, and the nature and extent of their holdings. It was, in effect, a cadastral survey.

DONATION - The voluntary conveyance of private property to public ownership and/or use, without compensation to the owner.

DONATION ACT OF SEPTEMBER 27, 1850 - Provided for grants of 320 acres to all White American citizens or those who intended to become citizens and who had resided in Oregon Territory and cultivated the land 4 years; wives to have an additional 320 acres. All white male citizens or intended citizens who emigrated there between Dec. 1, 1850 & Dec. 1, 1853, and who met the other requirements, were to have 160 acres or 320 acres, depending on their marital status. See DONATION LAND CLAIM.

DONATION LAND CLAIM - The land, 320 or 640 acres, that was allocated to an Oregon settler under the Donation Act of September 27, 1850. See DONATION ACT OF SEPTEMBER 27, 1850, ACT OF AUGUST 4, 1842, ACT OF JULY 22, 1854, and DONATION LANDS.

DONATION LANDS - Lands granted from the public domain to an individual or, as in the case of lands donated or granted to railroads as an incentive for construction, to corporations. See DONATION.

DOUBLE CENTERING - A method of prolonging a line from a fixed point whereby the backsight is taken with the telescope in the direct position. The telescope is placed in the indirect position and the foresight is made. The point at which the vertical cross-hair intersects the hub is then marked. The transit is then rotated 180° to take a backsight with the telescope in the indirect position, and a second projected point with the telescope in the direct position is marked on the hub. A point midway position between the two marked points is the true point on the prolonged line.

DOUBLE CORNER - Normally the two sets of corners along a standard parallel; the standard township, section, and quarter-section corners placed at regular intervals of measurement; additionally, the closing corners established on the line at the points of intersection of the guide meridians, range and section lines of the surveys brought in from the south. In other cases, not fully in conformity with the rectangular plan, two corners, each common to two townships only, instead of one corner of the four townships. Similarly, two corners, each common to two sections; and two quarter-section corners, each referring to one section only. The term is sometimes used incorrectly to denote two lines established on the ground although the field-note record indicates only one line, thus creating a hiatus or overlap.

DOUBLE MERIDIAN DISTANCE - 1) The sum of the distances from the end points of a line to an arbitrary reference north-south line used for area computations.

Sometimes considered as twice the distance from the midpoint of a line, which is mathematically equivalent. 2) The method of computing areas using DMDs or DPPDs.

DOUBLE PARALLEL DISTANCE - The sum of the distances from the end points of a line to an arbitrary east-west line used for checking area computations by the DMD method.

DOUBLE PROPORTIONATE MEASUREMENT (Also called "4-Way" proportion) - A method of restoring a lost corner of four townships or four interior sections. It gives concordant relation between all parts of the lines. The new values given to the several parts, as determined by remeasurement, shall bear the same relation to the record lengths as the new measurement of the whole line bears to that record. In cases of distorted lines subject to double only proportion, measurements are comparable when reduced to their equivalent latitudes and departures. See **SINGLE PROPORTIONATE MEASUREMENT** and **PROPORTIONATE MEASUREMENT**.

DOWER - The portion of, or interest in, the real estate of a deceased husband which the law gives to his widow for life. The extent varies with statutory provisions. See **CURTESY**.

DRAINAGE ENTRY - An entry, not exceeding 160 acres, on public lands. Under Federal statutory authority, a non-Federal tax, or drainage charge, is levied against such lands to defray the costs of draining swamp and overflowed lands. Also **Drainage Homestead Entry**.

DRIFT - In mining, an underground passage driven horizontally along the course of a mineralized vein or approximately so. See **SHAFT**, **TUNNEL**, **ADIT**, **CROSSCUT**.

DUE - Directly or exactly in a cardinal direction with the usual precision of that survey.

DUMPY LEVEL - A leveling instrument with its telescope permanently attached to the vertical spindle or leveling base as a single unit.

E

ET AL - An abbreviation for et alii, "and others," or et alius, "and another."

ETC. - The common abbreviation for "et cetera." And others; and other things; and others of like character; and others of like kind; and the rest; and so on; and so forth.

ET CON. - An abbreviation meaning "and husband."

ET SEQ. - An abbreviation for et sequentes or et sequentia, "and the following." A reference to "p.3 et seq" means "page number 3 and the following pages" It is also abbreviated "et sqq," in some works, when the reference is to more than one following page.

ET UX. - An abbreviation for et uxor, "and his wife."

EASEMENT - An interest or right in land owned by another that entitles its holder to a specific limited use such as laying a sewer, crossing over property or putting up power lines.

EGRESS - A right to go upon the land of another. See ACCESS, ENGRESS and REGRESS.

ELECTRONIC OR OTHER CONTROL POINT - A point which is not coincident with a legal corner but is used for coordinate computation or survey measurement control. Points in National Geodetic Reference System and BLM established control may be examples. (BLM 1973, paragraphs 2-11 and 4-19.)

ELECTRONIC CONTROL SURVEY - A survey, using theodolites and electronic equipment, whereby a control network is established and monumented to facilitate the placement of the rectangular survey grid.

ELECTRONIC DISTANCE MEASUREMENT (EDM) - Measurement made with devices that compare the phase difference between transmitted and returned (i.e, reflected or retransmitted) electromagnetic waves, of known frequency and speed, or the round trip transit time of a pulsed signal, from which distance is computed.

ELEVATION - "The vertical distance from a datum, generally mean sea level, to a point or object on the earth's surface. The terms 'elevation' and 'altitude' are sometimes used synonymously, but in modern surveying practice the term 'elevation' is preferred to indicate heights on the earth's surface, whereas 'altitude' is used to indicate the heights of points in space ... " (ACSM, 1978, page 59) Elevation may be above or below (+/-) the vertical datum.

ELLCOTT'S LINE - The meridian northward from the point of beginning of the first United States cadastral survey - a point established on August 20, 1785 on the north bank of the Ohio River - was named for Andrew Ellicott, and is known as Ellicott's Line. It is also the Ohio-Pennsylvania boundary line.

ELLCOTT'S LINE OF DEMARCATION - Andrew Ellicott was appointed by President George Washington to work with Spanish surveyors in running and marking the boundary between Mississippi Territory and Spanish Florida as determined by the treaty dated Oct. 27, 1795. This boundary along the 31st parallel of north latitude is called Ellicott's Line of Demarcation.

ELONGATED SECTION - A section which exceeds 85 chains in either length or width as originally surveyed and platted.

EMINENT DOMAIN - The right of governmental agencies to take private property for public use.

ENABLING ACT - In reference to admission of new States into the Union, it is an act passed by Congress empowering the people of a territory to frame a constitution and lay down certain requirements that must be met prerequisite to statehood.

ENCROACHMENT - An unlawful and adverse intrusion within the boundary of a

property, such as cultivation of the soil, enclosure by fence, the construction of an improvement, extension of a tunnel, underground operation or comparable act.

ENCUMBRANCE - Any right to or interest in land which makes it subject to a charge or liability. Encumbrances include mortgages, judgment liens, attachments, leases, deed restrictions, unpaid taxes, inchoate rights of dower and so forth. See INCHOATE.

END LINE - In mining law, the end lines of a claim, as platted or laid down on the ground, are those which mark its boundaries on the shorter dimension, where it crosses the vein. If the claim as a whole crosses the vein, instead of following its course, the end lines are still the boundaries of the shorter dimension, even though they are along the course of the vein. See SIDE LINE.

ENLARGED HOMESTEAD ENTRY - A homestead entry, not exceeding 320 acres, initiated under the act of Feb. 19, 1909 (35 Stat. 639), or the act of June 17, 1910 (36 Stat. 531, 43 U.S.C. sec. 218), which provide for the homesteading of nonirrigable agricultural lands in the West.

ENTRY - An application to acquire title to public lands. See ORIGINAL ENTRY, FINAL ENTRY, CASH ENTRY, and COMMUTED HOMESTEAD ENTRY.

ENTRY ALLOWED - An application to acquire title to public lands which has been approved, either as an original entry or a final entry. See ORIGINAL ENTRY and FINAL ENTRY.

ENTRYMAN - One who makes an entry of land under the public land laws of the United States.

ENTRY UNPERFECTED - An original entry which has been allowed, but under which the entryman has not met all the requirements of the law and/or regulations to permit him to make final entry for patent to the land. See FINAL ENTRY.

EPHEMERIS - Any tabular statement of the assigned places of a celestial body for regular intervals. The current Ephemeris of the Sun, Polaris and Other Selected Stars with Companion Data and Tables, which has been published annually in advance since 1910 as a supplement to the various Manuals of Surveying Instructions, is available through the U.S. Government Printing Office in Washington, D.C.

EQUATION - The relationship between two stationing values for the same point in route surveying such as 123445.6 back = 124 + 00 ahead.

EQUITABLE - 1) Just; conformable to the principles of right and justice. Just, fair and right in consideration of the facts and circumstances of an individual case. 2) Existing, available or sustainable only in equity or by the rules and principles of equity. See EQUITY.

EQUITY - A system of law originating in the English chancery and comprising a settled and formal body of legal and procedural rules and doctrines that supplement, aid or override common and statute law. Rules of equity are designed to protect rights and enforce duties as created and defined by law. In another legal meaning, "equity" is the remaining interest belonging to one who has pledged or mortgaged his property, or the surplus of value which may remain after the property has been sold to satisfy liens. The amount of value of a property above the total liens or charges. See COURTS OF EQUITY.

EROSION - In riparian law, the washing away of land by the sea or a river's flow. Usually considered as an imperceptible action, the rate of erosion may be quite rapid in total effect and may be distinguished from avulsion by the absence of identifiable upland between former and new channels. See RIPARIAN LAW, ACCRETION.

ERRONEOUS LOCATION - Where it is evident that lands have been occupied in good faith but boundaries as occupied are clearly in disagreement with the demonstrated position of the legal subdivision called for in the description, it is regarded as a case of "erroneous location." See AMENDED ENTRY.

ERRONEOUS MEANDERS - Error or mistake in position rather than in procedure.
See **MEANDER LINE**.

ERROR OF CLOSURE - The amount by which a value of a quantity obtained by surveying operations fails to agree with a fixed or theoretical value of the same quantity.

ERROR OF THE MEAN - The resultant error of the mean or average of a number of quantities. It is the quotient of the algebraic sum of the errors divided by the number of errors included.

ESCHEAT - In English feudal law, the reversion of lands to the lord of the fee in consequence of a want of an individual competent to inherit. In modern law, the State is deemed to occupy the place and hold the rights of the feudal lord. Real property may be claimed by the State where there is no will and/or no competent inheritors can be found. Also termed "escheated property" or "escheatage." See **INTESTATE**.

ESCROW - The state or condition of a deed which is conditionally held by a third person, or the possession and retention of a deed by a third person pending performance of a condition. While in the possession of the third person, and subject to condition, it is called an "escrow."

ESTATE - The interest which anyone has in lands or in any other property. "Estate" is used in conveyances in connection with the words "right," "title" and "interest." It is, in a great degree, synonymous with all of them. See **CONVEYANCE**, **REAL ESTATE**, **PROPERTY**, **REAL PROPERTY** and **PERSONAL PROPERTY**.

ESTOPPEL - The stopping of a person from asserting a claim by reason of his own previous representations which refute his new claim. The new claim may in fact be true, however, he may be prevented from exerting that claim by "estoppel." See **RES JUDICATA**.

EVIDENCE - Testimony, physical objects, marks, traces of former objects or relationship between any of these which may furnish proof or part of a proof of a corner location or line location. See **COLLATERAL EVIDENCE**.

EVIDENCING OF TITLE - The submission of proof of title to a tract of land as shown by an abstract of the recorded patent and deeds of transfer, inheritance, court decree, or other means of establishing the title.

EXCEPTION - In deeds or conveyances, a clause used by the grantor to retain some part of the former estate by excluding it from the deed or grant. "Except" means "not including."

EXCHANGE - A transaction whereby the Federal Government receives land in exchange for other land and/or timber. See **PRIVATE EXCHANGE**, **STATE EXCHANGE** and **TAYLOR ACT EXCHANGE**.

EXCHANGE SURVEY - A cadastral survey of lands to be exchanged. An exchange is a transaction whereby the U.S. Government receives land in exchange for other land and or timber. State exchanges, Private exchanges and Taylor Act exchanges (section 8 of the Taylor Grazing Act, June 28, 1934) are included. See also public law 94-579, section 206.

EXISTENT CORNER - A corner whose position can be identified by verifying the evidence of the monument, or its accessories, by reference to the description that is contained in the field notes, or where the point can be located by an acceptable supplemental survey record, some physical evidence or testimony.

EX OFFICIO - From office; powers exercised by an official not specifically conferred on him but necessarily implied in his office.

EXPERT WITNESS - A witness is a person who testifies as to what he has observed by sight, sound etc. An "expert witness" may testify additionally as to matters of opinion on subjects within fields for which he is qualified. Thus, a cadastral surveyor may interpret the meanings of the symbols, letters and numbers on a plat but he may say nothing to add to or subtract from the official record, which speaks for itself by definition. See **EVIDENCE**,

TESTIMONY, QUALIFIED (as a witness).

EX REL - Ex Relatione; Upon relation or information. Legal proceedings which are instituted by the Attorney General (or other proper person) in the name and behalf of the State, but on the information and at the instigation of an individual who has a private interest in the matter, are said to be taken "on the relation" (ex relatione) of such person, who is called the "relator." Such cause is usually entitled thus: "State ex rel. Doe v. Roe."

EXTENSION SURVEY - Executed to add to an existing survey. An "extension survey" does not, however, complete a survey of boundaries of townships or sections or the subdivision of a township or a section, it only adds to an existing partial survey. See COMPLETION SURVEY.

EXTINGUISHMENT - To render legally nonexistent; to destroy or render void; to nullify; to void, as by payment, treaty, setoff, or limitation of actions, merger of an interest in a greater one, etc. Extinguishment is distinguished from the mere transfer, passing, or suspension of a right or obligation.

EXTRALATERAL RIGHTS - In mining, the right to mine ore downward along a lode or vein beyond the side lines of a mining location (claim). The right is limited to claims which contain the apex of the vein at or very near the surface, which are oriented with the lode line substantially along the vein and which have the end lines substantially parallel. The right does not extend beyond planes passing vertically through the end lines. Extralateral rights of claims filed before May 10, 1872, were determined according to the previous law of 1866 and by miner's local rules and they were not dependent upon parallel end lines. Various States have modified the Federal requirements. See INTRALIMITAL RIGHTS.

F

FAIRBANKS MERIDIAN - The principal meridian governing surveys in east-central Alaska; it was adopted in 1910.

FALLING - The distance by which a random line falls to the right or left of a corner on which the true line is to close. Usually the direction of falling is expressed as cardinal.

FARM UNIT SURVEY - Bureau of Reclamation survey, done under BLM authority and accepted by the BLM. A survey done to delineate irrigable farm lands within Bureau of Reclamation project areas. "Wherever it may be necessary, for the purpose of accurate description, to further subdivide lands to be irrigated under the provisions of said reclamation law, the Secretary of the Interior may cause subdivision surveys to be made by the officers of the Bureau of Reclamation." Title 43, CFR 434.

FEDERAL LAND - All classes of land owned by the Federal Government.

FEDERAL POWER PROJECT RESERVATION - A reservation of public lands for use in connection with a power development project under the jurisdiction of the Federal Power Commission.

FEDERAL PROCUREMENT REGULATIONS - The regulations issued by the General Services Administration implementing the Federal Property and Administrative Services Act.

FEDERAL PROPERTY AND ADMINISTRATIVE SERVICES ACT OF 1949 - This law, as amended, sets forth the basic contracting procedures and principles which all civilian agencies must follow.

FEE - The true meaning of the word "fee" is the same as that of "feud" or "fief," and in its original sense it is distinguished from "allodium," which is defined as a man's own land, possessed in his own right, without owing any rent or service to any superior. In modern English tenures, "fee" means an estate of inheritance clear of any condition, limitation, or restriction to particular heirs, but descendible to the heirs in general, male or female, lineal or collateral. In American law, the terms "fee," "fee simple" and "fee simple absolute" are equivalent. See FEE SIMPLE, FEE TAIL.

FEE SIMPLE - The estate which a man has where lands are owned by him and his heirs absolutely, with unconditional power of disposition during his life, and descending to his heirs and legal representatives upon his death intestate. Fee simple title to public lands is conveyed by a patent, approved clear list, deed or grant without condition. See APPROVED CLEAR LIST, PATENT, DEED, GRANT, and INTESTATE.

FEE TAIL - An estate limited to one class of heirs.

FIELD EXAMINATION - An on-the-ground investigation of certain public lands in regard to valuation, land use, application for entry, mineralization, etc. See FIELD EXAMINATION (Prior to 1910) and FIELD EXAMINER (Prior to 1910).

FIELD EXAMINATION (Prior to 1910) - A method of checking public land survey field work under the contract system. See FIELD EXAMINER (Prior to 1910), CONTRACT SYSTEM, DIRECT SYSTEM and FIELD EXAMINATION.

FIELD EXAMINER (Prior to 1910) - A surveyor who was employed by the Government to inspect the accuracy and authenticity of contract surveyors' work. See FIELD EXAMINATION, FIELD EXAMINATION (Prior to 1910), CONTRACT SYSTEM and DIRECT SYSTEM.

FIELD NOTES - The official written record of the survey, certified by the field surveyor and approved by proper authority. Originally, Field Notes were prepared by hand, but they are now typewritten. See FIELD TABLETS and APPROVED SURVEY.

FIELD RETURNS - The field notes, reports and plats submitted for acceptance or approval. See FINAL RETURNS and RETURNS.

FIELD TABLETS - Notebooks in which the initial information is recorded in the field, and from which the Field Notes are transcribed. See **FIELD NOTES**.

FIFTH PRINCIPAL MERIDIAN - The principal meridian governing surveys in Arkansas, Iowa, Minnesota, Missouri, North Dakota and South Dakota. It was adopted in 1815.

FINAL CERTIFICATE - A document which evidences that an entryman is entitled to a patent provided that no irregularities are found in connection with his entry.

FINAL ENTRY - Where an application to acquire title to public lands has been filed in the proper manner and all the requirements of law and the governing regulations have already been complied with, it is a final entry. Final entries may be either cash entries or commuted entries. See **CASH ENTRY** and **COMMUTED HOMESTEAD ENTRY**. Also see **ENTRY** and **ORIGINAL ENTRY**.

FINAL RETURNS - In cadastral surveying usage, the field returns are the field notes, reports and plats submitted for acceptance or approval. If some error or omission is found, the field work must be corrected or completed. The corrected and/or completed field returns are referred to as "final returns." See **FIELD RETURNS** and **RETURNS**.

FIRST FORM RECLAMATION WITHDRAWAL - A reclamation withdrawal which embraces public lands that are or may be needed in connection with the construction and maintenance of a reclamation project. See **SECOND FORM RECLAMATION WITHDRAWAL**.

FIRST PRINCIPAL MERIDIAN - Sometimes called "Ludlow's Meridian." The line surveyed north from the mouth of the Great Miami River; it is also the line between Ohio and Indiana. It was adopted in 1819 and governs surveys in parts of both Ohio and Indiana. One of six principal meridians named for ordinal numbers, it is abbreviated 1st Prin Mer. See **ORDINAL NUMBER**.

FIVE ACRE TRACT ACT - See **SMALL TRACT ACT**.

FIVE PERCENT RULE - New area amounts are not usually shown on plats of dependent resurveys. They are shown if the area of a vacant subdivision as determined by the dependent resurvey differs from the former area as returned on the original approved plat by more than two acres per normal legal subdivision, or 5%.

FIXED BOUNDARY - An unchangeable boundary created by operation of law. Examples are: 1) A standard parallel or other control line becomes a fixed boundary on return of areas in adjacent quarter sections. 2) A median line of a nonnavigable stream becomes a fixed boundary after an avulsive change. 3) Meander lines can become fixed boundaries when omitted lands have been created by gross error or fraud in the original survey.

FLAGMAN - A member of a survey party who gives sights to or takes line from the instrument man and flags distant points along the survey line.

FLORIDA PURCHASE - The second addition of territory originally claimed by a European power to the territory of the United States. It was ceded by Spain in 1819 under a treaty which settled conflicts with Spain in West Florida and defined the boundary between the United States and the Spanish possessions in the Southwest.

FOLLOWING THE FOOTSTEPS OF THE ORIGINAL SURVEYOR - Retracement of survey lines using field and survey record evidence to determine the direction and distances measured by the surveyor who created the boundary. The process usually requires remeasurement of topographic calls, search for evidence of the previous survey work, determination of consistent or inconsistent chaining or bearing error in the original survey, and consideration of various conditions at the time the survey was executed as well as the methods and equipment used by the surveyor to be followed.

FORESHORE - 1) (Shalowitz) According to riparian law, the strip of land between the high and low water marks that is alternately covered and uncovered by the flow of the tide. 2) (T.R. No.4) The part of the shore, lying between

the crest of the seaward berm (or upper limit of wave action at high tide) and the ordinary low water mark, that is ordinarily traversed by the uprush and backrush of the waves as the tides rise and fall. See BEACH, SHORE, BACKSHORE and TIDELANDS.

FORESIGHT - 1) A sight on a new survey point made in connection with its determination. 2) A distant object intersected by a straight survey line used for checking alinement. 3) In leveling, a reading on a rod held on a point to determine its elevation.

FOUND CORNER - An existent corner of the public land surveys which has been recovered by field investigation.

FOURTH PRINCIPAL MERIDIAN - The part of this principal meridian which was adopted in 1815 governs surveys in part of Illinois. It was extended and the portion which was adopted in 1831 governs surveys in Wisconsin and part of Minnesota. It is abbreviated 4th Prin Mer.

FRACTIONAL SECTION - A section, which in its original form, contained one or more subdivisions of less than forty (40) acres due to irregular exterior boundaries, or due to the encroachment of a meandered body of water or other land which could not properly be surveyed or disposed of as an aliquot part of that section.

FRACTIONAL TOWNSHIP - A township containing less than 36 normal sections, usually because of invasion by a segregated body of water, or by other land which cannot properly be surveyed as part of that township or by closing the public-land surveys on State boundaries or other limiting lines. Half ranges and half townships are fractional townships by definition.

FRAGMENTARY SURVEYS - Surveys required to identify parts of townships and sections not completed in original surveys. This may include partially surveyed sections, omitted public land islands and other lands of substantial value and extent that for various reasons were not included in the original surveys. Surveys of this type frequently require consideration of the question of title prior to the extension of the former surveys.

FREE AND CLEAR - The title to property is said to be "free and clear" when it is not encumbered by any lien; but it is said that agreement to convey land "free and clear" is satisfied by a conveyance passing a title.

FRONTING - Usually signifies abutting, adjoining, or bordering on, depending on the context. Land abutting on a highway, river, seashore or the like. The land extending along a road, street, river, canal or ocean. The term, as used in statutes relating to assessments for improvements, indicates that there is no intervening land. See ADJOINING.

G

GADSDEN PURCHASE - A purchase from Mexico in 1853 to settle a question as to the limits of the Mexican Cession of 1848. James Gadsden, a South Carolina railroad promoter negotiated for the acquisition of 19 million acres of additional land and the settlement of the claims. The territory acquired lies in the States of Arizona and New Mexico. See GADSDEN TREATY.

GADSDEN TREATY - The December 30, 1853, treaty with Mexico, under the terms of which the United States acquired territory now in the States of Arizona and New Mexico. The territory thus acquired is commonly called the GADSDEN PURCHASE.

GENERAL LAND OFFICE - The agency which was formerly responsible for the execution of the public land laws relating to cadastral surveys, land disposals, and to various other activities with respect to the administration and management of the public lands. It was established as a unit of the Treasury Department in 1812, and so remained until 1849, when it became a part of the newly created Department of the Interior. It was abolished in 1946 when its functions were combined with those of the Grazing Service to become the Bureau of Land Management.

GEODESIC - The shortest line connecting two given points on the surface of an ellipsoid.

GEODESY - The science which treats mathematically the shape and size of the earth also, the branch of surveying in which measurements are made for determining the shape of the earth including precise horizontal and vertical positions on its surface. One branch of geodesy includes gravity forces.

GEODETIC AZIMUTH - The horizontal angle at station A measured from a north-south plane (perpendicular to the reference ellipsoid) clockwise to an ellipsoidal normal section passing through station B. Geodetic azimuth is determined by applying a correction to astronomic azimuth or by computations on the reference ellipsoid. The azimuth from A toward B is the forward azimuth while the azimuth from B toward A is the back azimuth of station B.

GEODETIC CONTROL - A system of monumented stations having known, precise positions established by geodetic methods.

GEODETIC COORDINATES - Quantities which define a horizontal position on an ellipsoid of reference with respect to a geodetic datum. See GEOGRAPHIC COORDINATES.

GEODETIC DATUM - A reference for geodetic survey measurements consisting of fixed latitude, longitude and azimuth values associated with a defined station as well as two constants for an ellipsoid of reference.

GEODETIC LATITUDE - 1) The angle between the plane of the equator of the reference ellipsoid and the normal to the ellipsoid surface. 2) The latitude of a point determined by geodetic methods.

GEODETIC LEVELING - Spirit leveling of a high order of accuracy, generally extended over large areas, with application of orthometric corrections, to furnish accurate vertical control for surveying and mapping operations.

GEODETIC LONGITUDE - 1) The dihedral angle between an arbitrary meridian and the meridian of an ellipsoidal normal. 2) A longitude determined by geodetic methods.

GEODETIC NORTH - The direction of the pole of the earth ellipsoid of reference

GEODETIC POSITION - A position of a point on the surface of the earth expressed in terms of geodetic latitude and geodetic longitude. A geodetic position implies an adopted geodetic datum. In a complete record of a geodetic position, the datum must be stated.

GEODETIC SURVEY - A precise survey of considerable extent which takes into account the shape of the earth.

GEOGRAPHER OF THE UNITED STATES - The only man to hold this title was Thomas Hutchins. He was appointed to the position under the terms of the Ordinance of May 20, 1785. The office was created for the supervision of the cadastral survey of the Territory Northwest of the Ohio River according to the rectangular system adopted by the Continental Congress under the ordinance. The east-west line at the north of "The Seven Ranges" is named "The Geographer's Line" in his honor. His successor, Rufus Putnam, was given the title "Surveyor General of the Northwest Territory" under the terms of the Act of May 18, 1796. See ORDINANCE OF MAY 20, 1785, THE SEVEN RANGES, ACT OF MAY 18, 1796, THE GEOGRAPHER'S LINE, SURVEYOR GENERAL, UNITED STATES SUPERVISOR OF SURVEYS and CHIEF DIVISION OF CADASTRAL SURVEY.

GEOGRAPHER'S LINE, THE - The first line surveyed under the rectangular system. This line, which extends the width of the Seven Ranges (42 miles), is named for Thomas Hutchins, the Geographer of the United States. Under the Ordinance of May 20, 1785, the geographer was to "personally attend to the running of" a line westward from the "Point of Beginning."

GEOGRAPHIC COORDINATES - An inclusive term, used to designate both geodetic coordinates and astronomic coordinates.

GEOGRAPHIC MIDDLE OF A RIVER - See MEDIUM FILUM ACQUAE.

GEOGRAPHIC POSITION - The coordinates of a point on the surface of the earth expressed in terms of latitude and longitude, either geodetic or astronomic. In determining the geographic positions of monuments of the public land surveys, reference is made to USC & GS, NGS, USGS, or other acceptably determined stations.

GEOID - The figure of the earth considered as a sea level surface extended continuously through the continents. It is a theoretically continuous surface that is perpendicular at every point to the direction of gravity (the plumbline). It is the surface of reference for astronomic observations and for geodetic leveling. See SPHEROID.

GEOLOGICAL SURVEYS. (GLO) - The first Geological Surveys of the public lands were initiated in 1844 by the General Land Office, in Michigan. Similar surveys were made in Wisconsin and Iowa during 1847; in Oregon and Washington during 1853; in Nebraska, Colorado and Wyoming during 1857. All such surveys were performed under private contracts. The Geological Survey was not established as a bureau of the Department of the Interior until 1879.

GILA AND SALT RIVER MERIDIAN - The principal meridian governing surveys in nearly all of Arizona; it was adopted in 1865.

GORE - 1) A hiatus. 2) (USGS) An irregularly shaped tract of land, generally triangular, left between two adjoining surveyed tracts, because of inaccuracies in the boundary surveys or as a remnant of a systematic survey. See HIATUS.

GOVERNING BOUNDARIES - Usually the south and east boundaries of a township, but may be termed the satisfactorily surveyed lines on which subdivisions are to be based. In rare and extreme cases, therefore, an irregular township may be without a single governing boundary.

GOVERNING SECTION LINE - A township subdivision line ran as the controlling boundary to rectify a defective township exterior. The line is surveyed on a bearing calculated to intersect the controlling corner on the opposite boundary. The last mile is run random and true. Completion of the subdivision of a township is based upon this boundary. See GUIDE MERIDIAN, SECTIONAL GUIDE MERIDIAN, STANDARD PARALLEL and SECTIONAL CORRECTION LINE.

GOVERNMENT LOT - See LOT.

GRADIENT - Rate of rise or fall, as "5% gradient," meaning a 5-foot vertical rise in a 100-foot horizontal distance (also recorded as 0.05). See GRADIENT BOUNDARY.

GRADIENT BOUNDARY - A boundary determined by the position of flowing water

along a bank. First announced in Oklahoma vs. Texas by the U.S. Supreme Court (265 US 493), as follows: "The boundary line is a gradient of flowing water in the river. It is located midway between the lower level of the flowing water that just reaches the cut-bank, and the higher level of it that just does not overtop the cut-bank. The physical top of the cut-bank, being very uneven in profile, cannot be a datum for locating the boundary line but a gradient along the bank must be used for that purpose. The highest point on the gradient must not be higher than the lowest acceptable point on the bank in that vicinity."

GRADUAL AND IMPERCEPTIBLE - Describes changes in riparian lands that bring them within the scope of the doctrine of accretion and erosion. The test of what is gradual and imperceptible has been held to be that "though the witnesses may see, from time to time, that progress has been made, they could not perceive it while the progress was going on." See **RIPARIAN LANDS**, **ACCRETION**, **RELICTION** and **EROSION**.

GRANT - Lands, title to which has been confirmed or conferred to the United States for a particular reason or purpose. See **GRANT IN PLACE**, **QUANTITY GRANT** and **PRIVATE LAND GRANT**.

GRANT BOUNDARY ADJUSTMENT - A mathematical distribution of the closing error which consists of a uniform rotation and scale change of the record courses to conform to the retracement value between the controlling corners. See **BROKEN BOUNDARY ADJUSTMENT**, **ADJUSTMENT** and **MISCLOSURE**.

GRANTEE - A person, firm or corporation to whom land, easements or other habiliments thereof are conveyed or granted.

GRANT IN PLACE - A grant in connection with which the Congress specifically states, or implies, the legal description of the public lands which are granted. See **QUANTITY GRANT**, **PLACE LANDS** and **INDEMNITY LANDS**.

GRANT IN PRAESENTI - See **IN PRAESENTI**.

GRANTOR - A person, firm or corporation granting or conveying land, easements or other habiliments thereof.

GRANT, QUANTITY - See **QUANTITY GRANT**.

GRAZING SERVICE - The agency formerly responsible for the administration of grazing on public lands which had been designated as grazing district lands. Organized in the Department of the Interior after the passage, in 1934, of the Taylor Grazing Act, it was abolished in 1946 when its functions were consolidated with those of the General Land Office and transferred to the newly created Bureau of Land Management.

GREENWICH MERIDIAN - The Prime Meridian. The meridian which passes through the original site of the Royal Observatory at Greenwich, England was adopted in 1884 by a conference of nations as the initial or zero of longitudes. From it other longitudes are reckoned east and west. See **WASHINGTON MERIDIAN**.

GRID AZIMUTH - The angle in the plane of projection between a straight line and the central meridian (y-axis) of a plane-rectangular coordinate system. Although essentially a map quantity, a grid azimuth may, by mathematical processes, be transformed into a geodetic azimuth.

GRID BEARING - The smaller angle in the plane of projection between a line and a north-south grid line. Grid bearings are determined only by mathematical computations or by applying corrections to geodetic azimuths. See **BEARING**, **BACK BEARING**, **GEODETTIC AZIMUTH** and **GRID AZIMUTH**.

GRID LENGTH - The distance between two points as obtained by inverse computation from the plane rectangular coordinates of the points. In the state coordinate systems, a grid length differs from a geodetic length by the amount of a correction based on the scale factor for the given line.

GRID NORTH - The direction of the earth's polar axis as plotted for computed) on a map projection.

GROIN - A shore protective structure, narrow in width, usually built perpendicular to the shore for purposes of trapping littoral drift, or to protect the shore from erosion. Sometimes incorrectly called a dike. See **DIKE**.

GROOVES - Elongated depressions scored into the face of a stone monument where the faces of the stone are turned to the cardinal. See **NOTCHES**.

GROUP NUMBER - A filing and record-keeping system whereby a particular cadastral survey project is identified, i.e., Group 123, Wyoming. Since the beginning of the Direct System, all cadastral survey projects authorized under one specific set of instructions have been referred to by their "Group Number."

GUARANTEE OF TITLE - A certification which insures that the title exists in fact as described. Often issued by title-guarantee companies or by the state, as in the case of a Land Court certificate. See **LAND COURT**.

GUIDE LINE - An obsolete term for random line.

GUIDE MERIDIAN - Guide meridians are extended north from the base line or standard parallels at intervals of 24 miles east and west from the principal meridian, in the manner prescribed for running the principal meridian and terminate at the point of their intersection with the standard parallels. (BLM 1973, paragraph 3-14.) See **AUXILIARY GUIDE MERIDIAN**.

GYROCOMPASS - A north seeking device consisting of a gimballed rotating wheel which a lines itself to the earth's rotation. Some aircraft magnetic compasses are gyroscopically stabilized and are also called gyrocompasses.

H

HACK - A horizontal notch cut well into a tree at about breast height. In a cadastral survey, two hacks are cut to distinguish them from other, accidental marks. A vertical section of the finished hack marks resembles a double-V extending across a tree from two to six inches, depending on the diameter of the tree. The "blaze" and "hack" marks are equally permanent, but so different in character that one mark should never be mistaken for the other. Hacks are sometimes called "notches" or, in older surveys, "chaps." See BLAZE.

HALF - A fractional part of a regular section subdivision determined according to equally divided linear measurements without consideration of the areas of the halves. Half of a regular section consists of any two quarter sections which have a common boundary, divided by a line between opposite 1/4 corners. In past years, patents for half of a Government lot have been erroneously issued. The division line was determined by equally divided linear measurements without regard to the actual area of the halves. In private and exchanges, it is generally presumed that a conveyance for half of a parcel grants half the area unless otherwise stated.

HALF-MILEPOSTS - In early survey practice, in parts of Alabama and Florida, so called "half-mile posts" were established. In some cases the "half-mile post" was not at mid-point on the section line. In other cases the "half-mile post" was in true position for the quarter-section corner. In still other instances the "half-mile post" was not on true line nor at mid-point on the line. Each set of field notes regarding "half-mile posts" requires individual consideration, as the survey practices were not uniform even within the same surveying district.

HALF-RANGE NUMBERS - In the instances where the distance between the regular position for township boundaries is so great that the application of normal rules would result in sections elongated in excess of 120 chains, half-range (or half-township) numbers may be created. Also used for identifying areas left unsurveyed by hiatus. See HALF-TOWNSHIP NUMBERS.

HALF-SECTION - See SECTION, HALF.

HALF-TIDE LEVEL - See MEAN TIDE LEVEL.

HALF-TOWNSHIP NUMBERS - In the rare cases where the distance between the regular position for township boundaries is so great that the application of normal rules would result in sections elongated in excess of 120 chains, half township (or half-range) numbers may be created. Also used for identifying areas left unsurveyed by hiatus. See HALF-RANGE NUMBERS.

HARMONIOUSLY RELATED - Conditions existing during the corner restoration process when a corner point under consideration reasonably conforms in position to that indicated by evidence at other corners of the survey, considering both the record and the survey conditions.

HAWAII ANNEXATION - The Republic of Hawaii was formally annexed to the United States by the voluntary action of its citizens and a joint resolution of Congress approved July 7, 1898. The transfer of sovereignty took place August 12, 1898. Since Hawaii had been an independent nation, it was not a public-land state.

HEADING - In mining, a preliminary passageway driven for exploratory purposes or to facilitate future work. Also, the forward end of a drift or tunnel.

HEADQUARTERS ENTRY - A cash entry of 5 acres or less of public lands in Alaska which are used as a headquarters for a productive industry.

HEADQUARTERS SITE - Five acres or less of public lands in Alaska which are used as, and are subject to entry as, headquarters for a productive industry.

HEARING - Opportunity for testimony and presentation of evidence at proceedings ordered and held pursuant to U.S.D.I. Hearing Procedures (43 C.F.R. 1850). (See 43 C.F.R. Part 4)

HEAVE - In mining, the horizontal distance between the parts of a vein that have been separated by a fault, measured along the strike of the fault. A vertical fault can have no heave, and a horizontal fault can have no throw. See **THROW**.

HEAVY BEARING - A survey slang term for a bearing which departs markedly from cardinal. A bearing of 2 or more degrees from cardinal may be considered a "heavy" bearing. "Strong bearing" is used synonymously.

HECTARE - A metric unit of area equal to 100 arcs or 2.471 acres.

HEREDITAMENT - Property subject to inheritance. See **PROPERTY**.

HIATUS - An area between two surveys, the record of which describes them as having one or more common boundary lines with no omission. See **OVERLAP**.

HIGH WATER - 1) The maximum height or stage reached by rising water. 2) (NOS) The maximum height reached by a rising tide. The height may be due solely to the periodic tidal forces or it may have superimposed on it the effects of prevailing meteorological conditions.

HIGH WATER LINE (NOS) - The intersection of the land with the water surface at an elevation of high water.

HIGH WATER MARK - 1) The line which the water impresses on the soil by covering it for sufficient periods to deprive it of upland vegetation. 2) (NOS) A line or mark left upon tide flats, beach, or alongshore objects indicating the elevation of the intrusion of high water. The mark may be a line of oil or scum on alongshore objects, or a more or less continuous deposit of fine shell or debris on the foreshore or berm. This mark is physical evidence of the general height reached by wave run-up at recent high waters. It should not be confused with the mean high water line or mean higher high water line. See **LOW WATER MARK** and **ORDINARY HIGH WATER**. For tidal conditions, See **MEAN HIGH WATER** and **MEAN LOW WATER**.

HIGHWAY ABANDONMENT - Non-use of public roads, usually defined by statute law in the various states.

HISTORICAL INDEX - A chronological summary of all actions which affect, have affected, or will affect the title to, disposition of, or use status of lands and resources within a township. See **LAND STATUS RECORDS**.

HISTORIC COAST LINE - The coast line position at date of statehood from which seaward distances may be measured to determine territorial waters of some States, Florida and Texas for example.

HOME-SITE ENTRY - The terms of the Act of May 14, 1898, provided for cash entry of 5 acres or less of public lands in Alaska used for residence purposes.

HOMESTEAD ENTRY - An entry under the United States land laws for the purpose of acquiring title to a portion of the public domain under the homestead laws, consisting of an affidavit of the claimant's right to enter, a formal application for the land, and payment of the money required.

HOMESTEAD ENTRY, ORIGINAL - An original entry under the homestead laws; also, the first homestead entry which was made by any individual; also, a homestead entry which was made pursuant to the first homestead law, the act of May 20, 1862 (12 Stat. 392) as codified in Sec. 2289 of the Revised Statutes. A second homestead entry was permitted under specific conditions as provided in the public land laws.

HOMESTEAD ENTRY SURVEY - A metes and bounds of lands entered under the Act of June 11, 1906 (34 Stat 233), as amended.

HOMESTEAD SETTLEMENT, ALASKA - Settlement, for homestead purposes, of unsurveyed or surveyed public land in Alaska according to the provisions of the Act of May 14, 1898 (30 Stat. 409; 48 U.S.C. 371; 43 C.F.R. Subpart 2567 et seq.), as amended, which extended the homestead laws to Alaska. All homestead

claims in Alaska must be perfected in accordance with the 3-year homestead law of June 6, 1912 (37 Stat. 123; 43 U.S.C. 164, 169,218).

HUMBOLDT MERIDIAN - The principal meridian governing surveys in northwestern California; it was adopted in 1853.

HYDROGRAPHIC DIVIDE - Ridge or elevated land area which separates the direction of flow of streams and rivers. The division of the watersheds. See **CONTINENTAL DIVIDE**.

HUNTSVILLE MERIDIAN - The principal meridian governing surveys in northern Alabama and a small part of Mississippi; it was adopted in 1807.

I

IMPERCEPTIBLE - See Gradual & Imperceptible.

INCHOATE - Imperfect; partial; unfinished. Begun but not completed; as a contract not signed by all the parties or a wife's interest in the lands of her husband during his life, which may become a right of dower upon his death. See DOWER.

INCHOATE TITLE - The beginning of a title or one not yet perfected into a legal title. When only a portion of the requirements for title has been completed, the title is "inchoate."

INCORPOREAL PROPERTY - That which cannot be seen or touched. Property, such as a right, which exists only in contemplation, as distinguished from corporeal property which has a material existence and which may be seen and touched. See CORPOREAL PROPERTY.

INCREMENT BORER - Sometimes called increment boring tool, it is a tool used to cut a plug from a tree to permit a count of the growth rings in determining the age of the tree.

INDEMNITY LANDS - Alternate lands granted to states under the public land laws when granted lands were unavailable. See INDEMNITY LIMITS, SCHOOL-LAND INDEMNITY SELECTION and LIEU LANDS.

INDEMNITY LIMITS - In railroad and wagon road grants, the strips of land lying within a specified distance on each side of, and adjacent to, the primary limits, within which the grantee could make lieu selections for lands lost to the grantee in the primary limits; also, the outside boundaries of these strips. See RAILROAD LIEU SELECTION.

INDEMNITY SCHOOL SELECTION - See SCHOOL LAND INDEMNITY SELECTION.

INDEMNITY SELECTION - See LIEU SELECTION.

INDENTURE - In conveyancing, formal written instrument made between two or more persons; the name is derived from the ancient practice of indenting or cutting the deed in a waving or saw-tooth line. In this way a part could be proved genuine by the way in which it fit into the angles cut into the other part.

INDEPENDENT RESURVEY - An independent resurvey is an establishment of new section lines, and often new township lines, independent of and without reference to the corners of the original survey. In an independent resurvey it is necessary to preserve the boundaries of those lands patented by legal subdivisions of sections of the original survey which are not identical with the corresponding legal subdivisions of the section of the independent resurvey (BLM, 1973, paragraph 6-5).

INDEX CORRECTION - 1) As used in the resurvey of the public lands, an average error in the lines of the original survey. The average error in the lines of an original survey (if conclusive) may be in alinement, or measurement, or both. 2) A correction applied to a reading to compensate for displacement of the zero mark.

INDIAN ALLOTMENT - An allocation of a parcel of public lands or Indian reservation lands to an Indian for his individual use; also, the lands so allocated.

INDIAN CLAIMS COMMISSION ACT - The act of Aug. 13, 1946, under which Indian claims to land based upon fair and honorable dealings that are not recognized by any existing rule of law or equity may be submitted to the Commission with right of judicial review by the United States Court of Claims.

INDIAN EXCHANGE - See INDIAN RESERVATION EXCHANGE.

INDIAN FEE PATENT - An Indian patent which conveys fee title.

INDIAN HOMESTEAD ENTRY - A homestead entry which is made by an Indian.

INDIAN LANDS - See CEDED INDIAN LANDS and INDIAN RESERVATION.

INDIAN MERIDIAN - The principal meridian which governs surveys in all of Oklahoma except the "panhandle;" it was adopted in 1870.

INDIAN PATENT - A patent which is issued to an Indian.

INDIAN POWER RESERVE - A power-site reserve within an Indian reservation.

INDIAN PUEBLO - An Indian reservation for the Pueblo Indians in New Mexico.

INDIAN PUEBLO ENTRY - A claim by a non-Indian for a patent to land within an Indian pueblo.

INDIAN RESERVATION - Lands reserved for the use of native Indians and, in Alaska, for Aleuts and Eskimos.

INDIAN RESERVATION EXCHANGE - An exchange whereby the Federal Government receives title to lands within an Indian reservation.

INDIAN TRUST PATENT - An Indian patent which is issued with the condition that title to the land remains for a specified period of time in the United States in trust for the patentee.

INDICATED CORNER - A term adopted by the USGS to designate a corner of the public land surveys whose location cannot be verified by the criteria necessary to class it as a found or existent corner, but which is accepted locally as the correct corner and whose location is perpetuated by such marks as fence-line intersections, piles of rock, and stakes or pipes driven into the ground, which have been recovered by field investigation. See OBLITERATED CORNER.

INDIRECT MEASUREMENT - Determination of a distance using a method, ie. triangulation or traverse, which employs both direct measurement and calculation. Also, determination of distance by use of photogrammetry, or timed travel of light or sound waves. See DIRECT MEASUREMENT.

INDIVIDUAL LIEU SELECTION, RAILROAD - See RAILROAD LIEU SELECTION.

IN FEE - Ownership in land. See FEE SIMPLE.

INFORMATIVE TRAVERSE - A survey, not included in the field notes, made to obtain topographic data.

INFRA - Below. Under. When used in text it refers to matter in a later part of the publication. See SUPRA, OP. CIT. SUPRA.

INGRESS - The right to enter a tract of land. In the law of riparian rights, the right of return to his land from navigable water which a riparian owner enjoys. See ACCESS, EGRESS.

INITIAL MONUMENT - A physical structure which marks the location of an initial point in the rectangular system of surveys. See INITIAL POINT.

INITIAL POINT - A point which is established under the rectangular system of surveys and from which is initiated the cadastral survey of the principal meridian and base line that controls the cadastral survey of the public lands within a given area. See PRINCIPAL MERIDIAN, BASE LINE, RECTANGULAR SYSTEM OF SURVEYS and INITIAL MONUMENT.

INITIAL POINT OF A METES AND BOUNDS SURVEY - Also called "beginning point." In a survey such as the survey of the boundaries of an Indian reservation, each angle point is monumented and assigned a number. The numbers are in series with number 1 at the initial point.

INITIAL POINT, PUBLIC LAND SURVEYS WITHOUT - There are eight public-land surveys, seven in Ohio and one in Indiana, which have no initial point as

origin for township and range numbers. They are: The Ohio River Survey, started in 1785, in which townships are numbered North from the Ohio River and ranges are numbered West from the west boundary of Pennsylvania; The U.S. Military Survey, started in 1797, in which townships are numbered North from the south boundary of the military grant and ranges are numbered West from the west boundary of the Seven Ranges; The West of the Great Miami, started in 1798, in which townships are numbered North from the Great Miami River and the ranges are numbered East from the Ohio-Indiana boundary; The Ohio River Base (Indiana), started in 1799, in which the townships are numbered North from the Ohio River and the ranges are numbered from the Ohio-Indiana boundary and its projection south; The Scioto River Base, started in 1799, in which the townships are numbered North from the Scioto River and the ranges are numbered West from the west boundary of Pennsylvania; The Muskingum River Survey, started in 1800, in which the townships are numbered 1 and 2 and the range is number 10; The Between the Miamis, north of Symmes Purchase, started in 1802, in which the townships are numbered EAST from the Great Miami River and the ranges are numbered NORTH from the Ohio River (as a continuation of the numbering of Symmes Purchase) and the Twelve-Mile Square Reserve, started in 1805, in which the townships are numbered 1, 2, 3 and 4 and there is no range number.

INLAND WATERS - Such waters as canals, lakes, rivers, watercourses, inlets and bays, exclusive of the open sea, though the water in question may open or empty into the ocean.

IN PRAESENTI - At the present time. The Swamp Lands Act of 1850 is an example of the grant taking effect in praesenti, that is, on the date of the passage of the act.

INSTRUMENT - An angle measuring device such as a compass, transit or theodolite. See **INSTRUMENT, LEGAL**.

INSTRUMENT, LEGAL - A written document. A formal or legal document in writing, such as a contract, deed, lease, will, bond or other writing of a formal or solemn character, such as a document given as a means of affording evidence. See **DOCUMENT**.

INTEREST - As applied to lands, "interest" means any direct or indirect ownership in whole or in part of the lands and resources of the lands. It includes any participation in the earnings therefrom, or the right to occupy or use the property or to take any benefits therefrom based upon lease or rental agreements, or upon any formal or informal contract with a person who has such an interest. It includes membership in a firm, or ownership of stock or other securities in a corporation which has such an interest.

INTERIOR BOARD OF LAND APPEALS - See **BOARD OF LAND APPEALS**.

INTERIOR DECISIONS - Decisions of the Department of the Interior. Prior to 1932 these decisions were called "Land Decisions" and included volumes 1 thru 52. Since 1932 they have been published and referred to as "Interior Decisions," and are cited thus: 60 I.D. 85. See **LAND DECISIONS** and **BOARD OF LAND APPEALS**.

INTERNAL IMPROVEMENT GRANT - A grant made to aid in the construction of roads, canals, railroads, or for other public improvements.

INTERPRETATION OF PLAT - Deductions which are based on symbols, bearings, areas and dates of approval shown on plats and which are used to determine the probable intention when information is missing or ambiguous, or when data shown on various plats needs clarification. See **PROTECT THE PLAT**.

INTERROGATORIES - A set or series of questions drawn up in writing for the purpose of being propounded to a party in equity, a garnishee, or a witness whose testimony is taken on deposition. In taking evidence on depositions, the interrogatories are usually prepared and settled by counsel, and reduced to writing prior to the examination. See **DEPOSITION**.

INTERSECTION - 1) The method of establishing the legal center of a section and the centers of the various quarter sections. 2) The point at which a survey

line passes through an object, such as a tree. 3) The point of crossing of two or more survey lines with each other, usually a junior line crossing a senior line. 4) The legal point of closing where a junior line closes on a senior (fixed) line. 5) The confluence of two or more streams of water. 6) The cutting or crossing in any combination of straight lines, curves, or semitangents to curves. 7) Area where two streets or roads intersect, generally including the space enclosed by the right-of-way lines as extended plus any transition curved boundaries. See LINE TREE, JUNIOR LINE, SENIOR LINE.

INTERSECTION POINT - The point of intersection to mark the intersection of one or more independently surveyed lines.

INTESTATE - Without making a will. A person is said to die "intestate" when he dies without leaving a valid will to testify what his wishes were with respect to the disposal of his property after his death. The word is also used to signify the person himself, s "the intestate's property."

INTRALIMITAL RIGHTS - In mining, rights extending downward within the limits of the claim to center of the earth. All surface rights and everything within the limits of his intralimital rights, except the extralateral rights attached to other veins apexing in another's claim, belong to the owner of the claim. There are no rights to explore in another's land or to approach the vein from any location other than the vein itself. If veins intersect, all the ore within the intersection belongs to the senior claimant, but a right of way through the intersection is assured. See EXTRALATERAL RIGHTS.

INURE - To take effect; to result. Provide service to the use or benefit of a person.

INVERSE COMPUTATION - The computation of the length and azimuths of a line from the coordinates of its end points.

INVESTIGATIVE SURVEY - A preliminary survey made to determine the physical condition of existing Cadastral Survey evidence.

IPSO FACTO - By the mere fact itself.

IPSO JURE - By the law itself; by the mere operation of the law.

IRON POST - The iron post adopted by BLM for monumenting the surveys of the public lands evolved after passage of the 1908 act which provided for the purchase of metal monuments to be used for public-land survey corners wherever practicable. Specifications for the brass-capped survey marker call for zinc-coated pipe cut to 30-inch lengths. One end of the pipe is split and the two halves are spread to form flanges. The dimension from the top of the pipe to the top of the brass cap is from 1/4 to 1/2 inch. The measurement from tip to tip of the flanges is specified at 4 1/2 inches. The measurement from the foot of the flange to the top of the marker is 28 inches, more or less. The inside diameter of the pipe is 2 inches. The weight is approximately 9 pounds. The words "U.S. DEPT. OF THE INTERIOR BUR. OF LAND MANAGEMENT-UNLAWFUL TO DISTURB-CADASTRAL SURVEY" and (at least for the next several years), the numerals "19," are cast into the brass cap.

IRREGULAR - As applied to units of the rectangular system, exceeding the rectangular limits.

IRREGULAR BOUNDARY - Township or section lines not originally established as straight lines or which a retracement reveals as not having been surveyed as a straight line. See IRREGULAR BOUNDARY ADJUSTMENT.

IRREGULAR BOUNDARY ADJUSTMENT - A modified form of single proportionate measurement used in restoring some lost corners. Sometimes considered as a Broken Boundary Adjustment. See IRREGULAR BOUNDARY, BROKEN BOUNDARY ADJUSTMENT.

IRREGULAR SECTION - A section having two or more adjacent boundaries, as returned on the original survey, that are not within 0° 21' of cardinal or exceed 25 links from 40 chains in measurement.

ISLAND - A body of land extending above and completely surrounded by water at ordinary high water. See ORDINARY HIGH WATER and ISLANDS.

ISOLATED TRACT - A parcel of vacant public lands, not exceeding 1,520 acres, which is surrounded by appropriated lands.

J

JACOB'S STAFF - A single staff or pole used for mounting a surveyor's compass or other instrument. Used instead of a tripod, a Jacob's staff is fitted with a ball-and-socket joint at its upper end, by means of which the instrument is adjusted to a level position; the foot is fitted with a metal shoe which facilitates pressing the staff firmly into the ground. Many of the early land surveys in this country were made with surveyor's compasses mounted upon Jacob's staffs.

JAIL-SITE RESERVE - A reservation of public lands in Alaska, not exceeding 4,000 square feet originally for use as a Territorial Jail Site.

JOINDER OF ACTIONS - This expression signifies the uniting of two or more demands or rights of action in one action or lawsuit.

JUDGMENT - In law an official formal decision given by a court, in another meaning, an obligation (as a debt) created by the decree of the court.

JUNIOR CORNER - A corner which is part of a survey occurring at a date subsequent to a prior (senior) survey.

JUNIOR LINE - Survey lines created at different times have different standings. The "junior" line would be the line created subsequent to an earlier line. See JUNIOR RIGHTS.

JUNIOR RIGHTS - Subordinate to the senior rights. The later patent issued usually has the subordinate right in a situation where a later survey is in conflict with an earlier survey. The first patent issued usually has the superior (senior) right and the second patent usually has the subordinate (junior) right, regardless of the dates of the original surveys.

JUNIOR SURVEY - A survey made subsequent to an earlier survey. See SENIOR SURVEY.

K

KATEEL RIVER MERIDIAN - The principal meridian governing surveys in western central Alaska; it was adopted in 1956.

KINKAID HOMESTEAD ENTRY - A homestead entry, not exceeding 320 acres (formerly, 640 acres), initiated under the act of April 28, 1904 (33 Stat. 547, 43 U.S.C. sec. 224), which provides for the homesteading of nonirrigable agricultural lands in parts of Nebraska.

KNOW ALL MEN - Used in conveyancing. A form of public address, of great antiquity, and with which many written instruments such as bonds, deeds, letters of attorney, etc., still begin.

L

LACHES - (pronounced as door latches) Failure to do something which should be done or to claim or enforce a right at a proper time.

LAKES, MEANDERED - From 1851 until the issuance of the Manual of Surveying Instructions, 1973, all lakes of the area of 25 acres or more were meandered. Now, all lakes of the area of 50 acres and upwards are meandered. Exceptions to this rule include artificial lakes and reservoirs (unless the instructions specifically provide for their meandering) and shallow or poorly defined "lakes" which are actually pools that collect due to permafrost and lack of drainage, or which are desert playas. See **PLAYA AND PERMAFROST**.

LAMBERT CONFORMAL CONIC MAP PROJECTION - A map plotting system in which points on the ellipsoid are mathematically projected onto a cone with its axis identical with the polar axis. The cone surface may be tangent to the ellipsoid or it may cut below the surface (secant) creating two parallels where the scale is exact. The secant form of this projection is the basis of State Plane Coordinate Systems where the zone extends more east-west than north-south.

LAND CLAIM - See **PRIVATE LAND CLAIM** and **DONATION LAND CLAIM**.

LAND COURT - A tribunal established for the purpose of administering legislative statutes relating to land boundaries and titles. There are Land Courts in California, Colorado, Georgia, Hawaii, Illinois, Massachusetts, Minnesota, North Carolina, North Dakota, New York, Ohio, Oregon, South Dakota, Texas, Utah, Virginia, and Washington.

LAND DECISIONS - Decisions of the Department of the Interior relating to the Public Lands. The decisions made prior to June 30, 1932 are published in volumes 1 thru 52 and are referred to as "Land Decisions" and cited as "L.D. 's, thus, 47 L.D. 10." See **INTERIOR DECISIONS** and **BOARD OF LAND APPEALS**.

LAND DEPARTMENT - The generalized term adopted in legal literature to denote the Secretary of the Interior, the Commissioner of the General Land Office, and currently (1973) the Director of the Bureau of Land Management, and their predecessors, together with subordinate officials, when acting in their capacity as administrators of the public-land laws.

LAND DISTRICT - The area administered by a particular land office. The act of May 10, 1800, provided for the creation of the first four land districts in "The territory northwest of the Ohio and above the mouth of the Kentucky River," as follows:

DISTRICT LAND OFFICE

Land below the Little Miami..... Cincinnati
Land east of the Scioto..... Chillicothe
Land east of the sixteenth range of townships.. Marietta
Other land..... Steubenville

As the public land surveys spread, new land districts were created. As the disposition of the public lands progressed and the work in a land district lessened, the land districts were abolished. A provision of the Act of July 31, 1876, abolished the land districts in Ohio, Indiana and Illinois. This was about the same time as the creation of new land districts in Utah, Washington and Wyoming (43 U.S.C.A., sec. 121, Historical Note).

LANDMARK - 1) Any monument or material mark or fixed object used to designate the location of a land boundary on the ground. 2) Any prominent object on land which can be used in determining a location or a direction. 3) A landmark decision; a judicial decision considered a turning point or highpoint of the era.

LAND OFFICE - A Government office, subordinate to the General Land Office. These offices were established in various parts of the United States for the transaction of local business relating to the survey, location, settlement, pre-emption and sale of the public lands. The brisk and extensive business in these offices gave a new phrase to our language- "a land-office business." See **LAND DEPARTMENT, LAND DISTRICT. GENERAL LAND OFFICE**.

LAND OFFICE STATUS PLAT - The triplicate plat of a survey used to be referred to as the "status plat." It was the companion record, in graphic form, to the tract book. These records together constituted, prior to the beginning of the Records Improvement Program in 1955, the records required in accordance with 43 C.F.R. 1813.1-1. To protect the plats from continual wear and damage and to preserve the information they contain, a system was developed whereby the old status plats are microfilmed before they are retired to a Federal Records Center. Through BLM's Records Improvement Project, new records were developed. See **MASTER TITLE PLAT**, **USE PLAT**, **HISTORICAL INDEX** and **TRACT BOOK**.

LAND ORDINANCE OF 1785 - See **ORDINANCE OF MAY 20, 1785**.

LAND REGISTRATION (Torrens system) - See **TORRENS REGISTRATION SYSTEM**.

LANDS OPEN TO MINERAL LOCATION - Lands held by the United States for disposal under the land laws are open to mineral location. Land specifically withdrawn, such as national parks, national monuments, military reservations and Indian lands are not subject to location. Minerals found within a national forest are subject to location provided the discovery is such that it would justify an ordinary prudent person his expenditure of time and effort in developing a paying mine. Without the existence of commercial value, mineral claims within a national forest are not valid locations. Lands such as the beds of navigable bodies of water and land between high and low-water mark are not subject to location under the Federal mining laws. See also **STATES EXEMPT FROM FEDERAL MINING LAW**.

LANDS SUBJECT TO SURVEY - In accordance with legal requirements, the public domain lands of the United States that have not yet been surveyed under the system of rectangular surveys are subject to survey. It is a well settled principle of law that the United States, through the Department of the Interior, Bureau of Land Management, has the authority and duty to extend the public land surveys as may be necessary. Lands erroneously omitted from earlier surveys are, for example, subject to survey.

LAND STATUS RECORDS - Those records maintained by the Bureau of Land Management, showing ownership of the public lands and the availability of the lands for use under the public land laws. The land status records include the Master Title Plat, Supplemental Master Title Plat, Use Plat, Historical Index, Control Document Index, Miscellaneous Document Index, Serial Register, Mineral Location and Contest Index, Tract Books, Plat Books, Patents, Deeds Name Index Card File, and the Working and Reference Records.

LAND SURVEYING - The practice of land surveying includes surveying of areas for their correct determination and description and for conveyancing, or for the establishment or reestablishment of land boundaries and the plotting of lands and subdivisions thereof. See **CADASTRAL SURVEY**.

LASER - An acronym for "Light Amplification by Stimulated Emission of Radiation," a device producing coherent energy beams in the spectrum of light or near-light frequencies.

LATERAL BOUNDARIES - Side boundaries; boundaries between adjacent states extending from shore to their seaward boundaries under Public Law 31; boundaries between adjacent nations through the marginal sea and the contiguous zones.

LATITUDE - 1) The distance on the earth's surface, north or south of the Equator, expressed in either linear or angular measurements. 2) The north-south component of a traverse course. See **GEODETTIC LATITUDE** and **ASTRONOMIC LATITUDE**.

LEAGUE - A marine measure of distance. In different times and countries it has varied from 2.4 miles to 4.6 miles. See **MARINE LEAGUES**.

LEASABLE MINERALS - Oil and gas; oil shale; coal; potash; phosphate; sodium; sulphur in Louisiana and New Mexico; gold, silver, and quicksilver in certain private land claims; and silica deposits in certain parts of Nevada. See **MINERAL LEASE** and **PLACER LAW OF 1897**.

LEASE - 1) A contract granting possession or control of real property for a determined period. 2) The act of granting the lease. 3) The act of the lessee in taking the lease.

LEASE MAP - Former name for the Outer Continental Shelf Official Protraction Diagrams.

LEDGE - In mining law, and in popular usage in the Western States, it is synonymous with "lode" and "vein." See LODE.

LEFT BANK (River) - The bank on the left-hand side of a stream or river as one faces downstream. See RIGHT BANK (River).

LEGAL DESCRIPTION - A written statement recognized by law as to the definite location of a tract of land by reference to a survey recorded map or adjoining property.

LEGAL SUBDIVISION - The subdivision of a township, such as a section, half-section, quarter-section, quarter-quarter or sixteenth-section, or lotting, including the lot, section, township and range numbers and the description of the principal meridian to which referred, all according to the approved township plat. See SUBDIVISION, SMALLEST LEGAL; ALIQUOT PARTS and MINOR SUBDIVISIONS.

LEGEND - A description, explanation or table of symbols printed on a map or chart to permit a better understanding or interpretation of it.

LETTER "E" - Under a General Land Office system of paperwork classification, Letter "E" documents originated in the Washington Office and referred to engineering functions.

LEVEL - 1) Horizontal. 2) A leveling instrument. 3) An attachment (such as a spirit level) to indicate when an instrument or other device is level or vertical.

LEVEE - An embankment alongside a river to prevent high water from flooding bordering lands.

LIEU LANDS - Former public lands within specified limits (Indemnity Limits) which were granted instead of (in lieu of) areas intended to be granted but which were already patented or otherwise not available. See INDEMNITY LIMITS, PLACE LANDS and LIEU SELECTION.

LIEU SELECTION - An application to acquire title to public lands in exchange for which the applicant relinquishes his rights or title to other lands which he, for some reason, cannot or does not wish to acquire or hold.

LIMITED DEPENDENT RESURVEY - A dependent resurvey limited to a certain portion of a township.

LIMITING BOUNDARY - The boundary of lands actually surveyed. The term is usually used to describe a particular boundary in special cases. For example: A fictitious or grossly erroneous meander line may be held to be a fixed and "limiting boundary" of the lands actually surveyed; the exterior boundaries of an area to be independently resurveyed may be termed the "limiting boundary" of that project area. See OUTBOUNDARIES and FIXED BOUNDARY.

LINE, RANDOM - See RANDOM LINE.

LINE TREE - A tree intersected by a surveyed line, reported in the field notes of the survey, and marked with two hacks or notches cut on each of the sides facing the line. Originally, these trees were called "station trees," and they are sometimes called "sight trees," but since the line intersects them, the term "line tree" is preferred.

LINE TREES, Ownership of - Trees whose trunks are wholly upon the land of one owner belong exclusively to him. Trees whose trunks stand partly on the land of two or more abutting owners belong to them in common.

LINK - A unit of linear measure, one hundredth of a chain and equivalent to 7.92 inches (0.66 foot). See **CHAIN**.

LIQUIDATED DAMAGES - An assessment of monetary charges determined in advance by contractual agreement as compensation for some breach of a contract.

LITTORAL - From the Latin "litus." Of or pertaining to the shore, especially of the sea. A coastal region.

LITTORAL CURRENTS (T.R. No. 4) - The nearshore currents primarily due to wave action, e.g. longshore currents and rip currents.

LITTORAL DRIFT (T. R. No.4) - The material moved in the littoral zone under the influence of waves and currents.

LITTORAL OWNER - One who owns land abutting a sea or ocean where the tide regularly rises and falls. In common usage, the word "riparian" is often used instead of littoral to include seashore boundaries as well as inland water boundaries.

LIVERY OF SEISIN - The appropriate ceremony, at common law, for transferring the possession of lands or tenements by a grantor to his grantee. This method of transfer is now replaced by granting of deeds and by Recording Statutes.

LOBE - The tongue of land within the meander. When the lobe lies between two stream meanders and is connected with the mainland by a narrow passage, the narrow passage is the neck. The cutting action of the river narrows the neck until finally the river breaks through and forms a new channel or a cut off.

LOCAL CORNER - A BLM term for a private sector or non-BLM monument or corner. "... local points of control have all the authority and significance of an identified original corner, once they are accepted." (BLM Instruction Memorandum 86-31, BLM Policy)

LOCATION - In mining, the perfecting of a right to possession of a mining claim for mining purposes. This includes the staking of the claim, sinking a discovery shaft, discovery of a valuable mineral, posting a notice of location and recording the claim. In a broad sense there are 4 types of location: lode or vein, placer, tunnel and mill site. In a secondary meaning, a location is the mining claim covered by an act of appropriation or location. Also See **MINING CLAIM**, **LODE CLAIM**, **PLACER CLAIM**, **MILL-SITE ENTRY** and **LOCATION NOTICE**.

LOCATION CORNER - A term applied to a position determined and marked by the locator (claimant) of a mineral right to distinctly and clearly define the boundaries of a mining claim on the ground. This is not the same as a Location Monument and is not an officially recognized BLM cadastral survey corner.

LOCATION MONUMENT - "When a mineral survey is situated in a district where there are no corners of the public survey and no other monuments within 2 miles, a location monument is established." (BLM 1973, paragraph 10-32.) "A location monument is most frequently used as a reference for one or more mineral surveys. It may also be used in any situation where no corner of an existing survey is available to provide a satisfactory connection for an isolated special survey. The monument is generally established in a conspicuous position with good visibility from every direction. The corner of a special survey may be designated as a location monument if it meets this qualification." (BLM 1973, paragraph 4-18). This definition includes U.S. Mineral Monuments and U.S. Location Monuments. See **UNITED STATES LOCATION MONUMENT**.

LOCATION NOTICE - In mining, a public notice of location of a mining claim. The object of the notice is to inform the public. It must be filed and posted on the ground according to the laws of the state where located. Usually it sets forth the name of the locator, the date, the name of the claim, and a tie to a corner of the public land surveys. The essential requirement of a location notice, however, is that it must so describe and identify the location that it can be found by anyone interested in doing so, and that the boundaries may be readily traced on the ground. See **LOCATION**.

LOCATION SURVEY - 1) The establishment on the ground of points and lines which have previously been determined by computation, or by graphical methods, or by description obtained from deeds and maps or other records. 2) In private practice of surveying, survey of a lode mining claim.

LODE - Mineralized rock lying within boundaries clearly separating it from the neighboring rock and extending longitudinally in a continuous zone or belt. In mining law, and in popular usage in the Western States, it is synonymous with "ledge" and "vein." See MINERAL SURVEY.

LODE CLAIM - A mining claim embracing public lands which contain minerals occurring in a vein or lode. See MINERAL SURVEY and PLACER CLAIM.

LONGITUDE - The distance on the earth's surface, east or west of a defined meridian, usually the meridian of Greenwich (0° Longitude), expressed in either angular measure, such as 90° West Longitude, or in time, such as 6 hours West of Greenwich. See WASHINGTON MERIDIAN.

LOST CORNER - A corner whose position cannot be determined, beyond reasonable doubt, either from traces of the original marks or from acceptable evidence or testimony that bears on the original position, and whose location can be restored only by reference to one or more interdependent corners.

LOT - A subdivision of a section which is not described as an aliquot part of the section, but which is designated by number, e.g., LOT 2. A lot may be regular or irregular in shape and its acreage varies from that of regular subdivisions. The term "Government Lot" is commonly used by persons outside the Bureau of Land Management in referring to such a subdivision of a section. "Lot" is also the name given individual parcels of recorded subdivisions of private tracts. See TOWN LOT, TRACT and URBAN SUBDIVISION.

LOUISIANA MERIDIAN - The principal meridian governing surveys in the greater part of Louisiana; it was adopted in 1807.

LOUISIANA PURCHASE - The territory purchased from France in 1803. It was the earliest acquisition by the United States of territory claimed by a European power. It resulted in the acquisition of more than 500 million acres of public lands west of the Mississippi River.

LOUISIANA SWAMP LAND ACT OF 1849 - The Act of March 2, 1849 (9 Stat.352), granted to the State of Louisiana all the swamp and overflowed lands within the limits of the State for the purpose of aiding in the reclamation of said lands. See SWAMP LANDS ACT OF 1850 and SWAMP LANDS ACT OF 1860.

LOW-WATER MARK - The stage to which a river or other inland body of water recedes, under ordinary conditions, at its lowest stage or elevation. Low-water mark should not be used in reference to tidal waters. See MEAN LOW WATER and HIGH- WATER MARK.

M

MAGNETIC DECLINATION - The bearing on a given date (reckoned east or west from the north branch of the celestial meridian plane) of magnetic north as determined by the positive pole of a freely suspended magnetic needle which is subject to no transient artificial disturbance.

MAGNETIC VARIATION - Regular or erratic change in magnetic declination. Not interchangeable with declination but old field notes use Var. as the declination of the compass.

MAIN CHANNEL - See CHANNEL, MAIN.

MANAGER - Under Reorganization Plan No.3, which created the Bureau of Land Management in July 1946, the functions and powers of a "Register" were to become those of a "Manager" of a district land office. See REGISTER.

M AND P FACTORS - Tables used to convert short distances expressed in seconds of latitude (Meridional) and seconds of longitude (Parallel) into feet, or chains, at various latitudes.

MANUAL OF INSTRUCTIONS FOR THE SURVEY OF THE PUBLIC LANDS OF THE UNITED STATES, 1973 - Short title: "Manual of Surveying Instructions, 1973." Also referred to as "The 1973 Manual", "The BLM Manual", "the 1973 BLM Manual", "the Manual" and slang, the Blue Book.

MAP - A representation on a plane surface, at an established scale, of the physical features (natural, artificial, or both) of a part or the whole of the earth's surface, by means of signs and symbols, and with the means of orientation indicated. See QUADRANGLE MAP.

MAPPING ANGLE - The correction to be applied to geodetic azimuth before plotting an azimuth on a map projection.

MARGINAL DATA - A memorandum in the margin of a cadastral survey plat. The memorandum is intended to correlate and consolidate information regarding the record of surveys as shown on the plat. Under the General Land Office, the practice was to show this data in box-tabulated form on plats of original surveys.

MARKETABILITY TEST - Used in determining whether or not a discovered mineral deposit is "valuable" under the meaning of the law, it is the test of whether or not the mineral can be extracted and marketed at a profit. It is a complement to and refinement of the "prudent man test." See MINERAL, VALUABLE and PRUDENT MAN TEST.

MARSH - An area of low-lying, wet ground subject to frequent or regular flooding or ordinarily covered with water. Marsh vegetation is composed chiefly of reeds, grasses and grasslike plants. In Cadastral Survey usage the word "marsh" has usually been used to refer to coastal "salt marshes". See BOG, SWAMP and SALT MARSH.

MASTER TITLE PLAT - A composite of the survey plats of a township on which is shown the ownership and land status. See SUPPLEMENTAL MASTER TITLE PLAT and USE PLAT.

MEAN BEARING - 1) The average (mean) of the forward and the back bearing of a straight line. 2) The average of the bearings of an irregular boundary whose courses are nearly equal in length. 3) The weighted average of the azimuths of an irregular boundary after conversion to an equivalent bearing. 4) The average of the bearings of opposite subdivision lines. 5) The mean of a series of bearings obtained by measurement. See BACK BEARING.

MEANDER CORNER - A meander corner is established at every point where a Township line, section line, Land Grant, Homestead Entry Survey, Donation Land Claim of other survey intersects the bank of a navigable stream or other meanderable body of water. (BLM, 1973, paragraph 3-117.)

MEANDER FIELD BOOK - Page 24 of the Manual of Surveying Instructions, 1851,

states: "Both banks of navigable streams are to be meandered by taking the courses and distances of their sinuosities and the same are to be entered in the meander field book."

MEANDER LINE - The traverse run at the line of mean highwater of a permanent natural body of water. In original surveys, meander lines are not run as boundary lines. They are run to generally define the sinuosities of the bank or shore line and for determining the quantity of land in the fractional sections remaining after segregation of the water area.

MEAN HIGH WATER - 1) The elevation of the water at the margin of the area occupied by the water for the greater portion of each average year, as determined by vegetative, on topographic changes. 2) As applied by NOS, the mean of all high waters are a considerable period of time, usually 18.6 or 19 years.

MEAN LOW WATER (USC & GS, S.P. 242) - The mean height of all low waters at a point or particular station over a considerable period of time. For tidal waters, the cycle of change covers a period of about 18.6 years, and the mean low water is the mean of all low waters for that period. For any body of water, it is the mean of all low waters over a period of time of such length that increasing its length does not appreciably change the mean.

MEAN SEA LEVEL - The average height of the surface of the sea for all stages of the tide over a 19-year period, usually determined from hourly height readings.

MEAN TIDE LEVEL - (Also called half-tide level) A plane midway between mean high water and mean low water. Because of the lack of symmetry of the tidal curve this is not the same as mean sea level. See **MEAN SEA LEVEL**.

MECHANICAL AEROTRIANGULATION - This method (also known as the analogue or instrumental method) of aerotriangulation establishes positions and elevations by use of an instrument viewing a spatial model. Precise connections are made between successive models which in turn are tied to vertical and horizontal control. This method which, after adjustment, allows an accurately scaled representation of the project area to be depicted, has been used for several successful cadastral survey projects. However, due to the fact that the accuracy of the data obtained by use of the analytical process is usually of another order than that obtained by the mechanics methods, the Bureau of Land Management has adopted analytical aerotriangulation for use in photogrammetric cadastral surveys. See **ANALYTICAL AEROTRIANGULATION**.

MEDIAL - Situated in or pertaining to the middle; intermediate. See **MEDIAL LINE**.

MEDIAL LINE - In surveying, the term refers to a particular line which must be determined by the consideration of various factors, or the weighing of evidence, as well as the use of measurement and/or calculation. An example would be the determination of the center of the main channel of a river as distinguished from the measurement or calculation of a line midway between its banks. Occasionally used as though synonymous with "median line" See **MEDIAN LINE**, **CHANNEL**, **MAIN**, **GRADIENT BOUNDARY**.

MEDIAN - Noting or pertaining to a plane dividing something into two equal parts, especially one dividing a thing into left and right halves In geometry, a straight line from the vertex of a triangle to midpoint on the opposite side. See **MEDIAN LINE**.

MEDIAN LINE - The "median line" of a body of water is a line, every point of which is equidistant from the nearest point on opposite banks or other reference lines. The median is a continuous line formed by intersecting straight line or curve segments. "Median line" may also refer to the average of the distances between non-parallel lines. See **MEDIAL LINE** and **MEDIUM FILUM ACQUAE**.

MEDIATION - The act of a third person who comes between two opposing parties in order to persuade them to compromise, adjust or settle their dispute.

MEDIATOR - A third person who tries to get two opposing parties to reach a compromise or otherwise settle their dispute.

MEDIUM FILUM ACQUAE - The geographic middle of a river supposed to divide it into two equal parts, without considering the channel or channels of the river. Identical with a median line, every point of which is equidistant from the nearest points of the baseline on the opposite shores. See **THALWEG**.

MEMORIAL - A durable article deposited in the ground at the position of a corner to perpetuate that position should the monument be removed or destroyed. The memorial is usually deposited at the base of the monument and may consist of durable, such as glass or stoneware, a marked stone, anything charred stake or a quantity of charcoal.

MERIDIAN - 1) A north-south line from which longitudes (or departures) and azimuths are reckoned; or a plane, normal to the geoid or spheroid, defining such a line. 2) A flag or sight near a survey camp used to test solar transits for adjustment. See **PRINCIPAL MERIDIAN**, **GUIDE MERIDIAN**, **AUXILIARY GUIDE MERIDIAN**, **GREENWICH MERIDIAN** and **WASHINGTON MERIDIAN**.

MERIDIONAL LINE - A north-south line or a line along a meridian of longitude.

MESNE CONVEYANCE - Pronounced "mean". An intermediate conveyance; one occupying an intermediate position in a chain of title between the first grantee and the present holder.

METER - The new (1952) International Standard Meter is defined as 1,650,763.73 times the wavelength of krypton light where one foot equals 0.3048 meters. The American Survey Foot retains the old definition of the meter which is 39.37 inches.

METES AND BOUNDS - A method of describing a parcel of land by citing the owners of abutting lands and describing the length of each course of a boundary as "along" some apparent line, such as, along the stream" or "along the road." In modern usage, a metes and bounds description includes the bearings and distances of each course.

METES-AND-BOUNDS SURVEY - A survey of an irregularly shaped tract of land, not conforming to the rectangular system of surveys.

MEXICAN CESSION - Territory included approximately within the present limits of California, Nevada, Utah, and parts of Colorado, New Mexico and Arizona, ceded to the United States in 1848 under the terms of the Treaty of Guadalupe Hidalgo. See **TREATY OF GUADALUPE HIDALGO**.

MICHIGAN MERIDIAN - The principal meridian governing surveys in Michigan and in the extreme northwestern part of Ohio.

MICRONESIA - See **TRUST TERRITORY OF THE PACIFIC ISLANDS**.

MILE CORNER - "The mile corner of a State, Reservation or other grant boundary does not mark a point of a subdivision; it is a station along the line, however, long usage has given acceptance to the term." (BLM 1973, paragraph 5-4.)

MILE POST - See **MILE CORNER**.

MILITARY BOUNTY LAND WARRANT - Authorization to obtain public lands as a reward for military service. It was issued in the form of scrip which could be exchanged for specified amounts of land in designated areas.

MILITARY RESERVATION - Federal lands which have been dedicated for military purposes of the Department of the Army. See **NAVAL RESERVE**.

MILITARY WAGON ROAD GRANT - See **WAGON ROAD GRANT**.

MILL SITE - Up to 5 acres of public land may be claimed for the purpose of processing minerals. Mill sites are limited to lands that do not contain valuable minerals.

MILL SITE ENTRY - A cash entry of nonmineral public lands which are to be used as a mill site for the reduction of ore or in the development of a lode claim.

MINERAL EXAMINER - An employee of the Bureau of Land Management who, prior to patent, conducts a field examination to determine the validity, under the law, of a mining claim. To be a bona fide claim, for example, the discovered mineral deposit must be valuable. See **MINERAL, VALUABLE**; **PRUDENT MAN TEST** and **MARKETABILITY TEST**.

MINERAL LOCATION AND CONTEST INDEX - A component of the land status records; it is a listing by township and range of mineral location notices filed under special mining claim recording laws, abandonments and relinquishments of mining claims secured by the Government, and of actions initiated to determine the validity of mineral, agricultural and other claims on national resource lands. See **LAND STATUS RECORDS**.

MINERAL ADVERSE CLAIM - A notice of protest filed by a rival claimant against the approval of a mineral application.

MINERAL APPLICATION - An application to purchase public lands which are held as a mining claim or which are desired as a mill site. See **MINERAL LAND ENTRY**.

MINERAL CLASSIFICATION - Classification of public lands as being valuable for a specified mineral (or minerals); also, the public lands so classified.

MINERAL DISCOVERY - See **DISCOVERY**.

MINERAL DISTRICT - A general designation sometimes used in acts of Congress in reference to regions of the country where valuable minerals are mostly found, or where the business of mining is chiefly carried on. It carries no precise meaning and is not a legally recognized term. See **ORGANIZED MINING DISTRICT** and **UNORGANIZED MINING DISTRICT**.

MINERAL INVESTIGATION - Synonymous with field examination.

MINERAL LAND ENTRY - Filing a claim to hold or purchase lands belonging to the public domain and valuable for the minerals they contain, implying a prior discovery of ore and the opening of a mine.

MINERAL LANDS - Public lands which have been classified as containing, or are known to contain, valuable minerals.

MINERAL LEASE - A lease under the Act of Feb. 25, 1920 (The Mineral Leasing Act), as amended and supplemented. It authorizes the development and production of certain leasable minerals from public lands. See **LEASABLE MINERALS** and **PLACER LAW OF 1897**.

MINERAL LOCATION - A mining claim.

MINERAL MONUMENT - A term formerly used; it has been discontinued. See **UNITED STATES LOCATION MONUMENT**.

MINERAL RESERVATION - A clause in a patent which retains minerals in Federal ownership.

MINERAL RIGHTS - Rights which attach only to mineral deposits. See **SURFACE RIGHTS**.

MINERAL SEGREGATION SURVEY - The measurements and corner restorations needed to define the boundaries between a mineral claim and other public lands for administrative purposes. Even though it also defines the boundaries of the mineral claim, in whole or in part, that is merely incidental and does not confer any rights to the mineral claimant.

MINERAL SURVEY - A cadastral survey of a lode claim, placer claim or millsite with all its notes and plats. This type of survey is executed by a U.S. Mineral Surveyor for the purpose of marking the legal boundaries of mining claims on the public domain. The location and estimated value of mining

improvements are returned by the survey but no reference is made to mineral deposits. See OFFICIAL SURVEY.

MINERAL, VALUABLE - A deposit of a mineral ore or substance which is useful in commerce or the arts, occurring in quantity and quality sufficient to justify its mining and removal for sale; also, any quantity of such ore or substance in a vein or lode, the size and continuity of which are such as to justify an ordinarily prudent man in the expenditure of his labor and means in an effort to develop a paying mine.

MINERAL WITHDRAWAL FOR CLASSIFICATION - A withdrawal of public lands which are potentially valuable for leasable minerals. The withdrawal precludes the disposal of the lands except with a mineral reservation clause unless the lands are found, upon examination or by other competent evidence, not to contain a valuable deposit of minerals.

MINE SURVEY - A survey to determine the positions and dimensions of underground passages of a mine; also of the natural and artificial features-surface and underground-relating to the mine. As cadastral surveys, they are made to detect, or determine the extent of, underground trespass. See MINERAL SURVEY.

MINING ACT OF 1866 - The 1866 bill known as H.R. 365 was, most emphatically, a lode mining bill. It became mining law on July 26, 1866, under the astonishing title: "An act granting the Right of Way to Ditch and Canal Owners over the Public Lands, and for other purposes." See PLACER ACT OF 1870 and MINING LAW OF 1872.

MINING CLAIM - A parcel of land probably containing valuable mineral in its soil or rock, and appropriated by an individual, according to established rules, by the process of "location."

MINING CLAIM OCCUPANCY ACT - The Act of October 23, 1962 as amended (76 Stat. 1127; 30 U.S.C. 701-704), authorized the Secretary of the Interior to convey to qualified applicants, under its provisions and requirements, maximum tenure consistent with the public interest in the lands which they occupy. This law expired June 30, 1971.

MINING DISTRICT - See ORGANIZED MINING DISTRICT and UNORGANIZED MINING DISTRICT.

MINING LAW, STATES EXEMPT FROM - See States Exempt From Federal Mining Law.

MINING LOCATION - See LOCATION and MINING CLAIM.

MISCELLANEOUS CONTROL - A mathematical recovery of a lost corner by allowing every known corner within a reasonable radius which was tied to the missing corner to enter into the control, each control corner being given a weight inversely proportional to its distance from the missing corner.

MISCELLANEOUS DOCUMENT INDEX - A list, by State, of those documents which apply to lands not specifically described on which conditions may exist that would restrict disposition or use of the lands. See LAND STATUS RECORDS.

MISCLOSURE - 1) The amount by which a series of survey measurements fail to yield a theoretical or previously determined value for a survey quantity; hence a measure of the accumulated errors and blunders in the work. Also termed "closing error," or "error of closure." 2) An error of closure in excess of specified limits, as in "out of limits." See RESIDUAL ERROR.

MISSION-SITE ENTRY - A grant, to a religious society, of public lands which it occupies as a missionary station in Alaska.

MONTANA PRINCIPLE MERIDIAN or MONT. PRIN. MER. - As shown on some MT plats. Technically Principal Meridian, Montana, NOT Montana Principal Meridian. Principal Meridian governs surveys in Montana. It was adopted in 1867.

MONUMENT - A physical structure, such as an iron post, marked stone, or tree in place, which marks the location of a corner point established by a

Cadastral Survey. Objects, to be ranked as monuments, should have certain physical properties such as visibility, durability and stability, and they must define location without resorting to measurements. "Monument" and "corner" are not synonymous, although the two terms are often used largely in the same sense. See CORNER.

MONUMENT, LEGAL - The courts and the general public refer to "monument" as if the term includes such things as reference to an adjoining title, a plat, or physical evidence of a boundary, such as a fence. Occasional reference will be made to natural monuments which would more precisely be classed as topography. See MONUMENT.

MORE OR LESS - When used in connection with quantity or distance in a conveyance of land are considered words of safety or precaution, intended to cover some slight or unimportant inaccuracy. The same applies to the use of the word "about."

MOUNDS AND PITS - A system of witnessing corner stakes in prairie country.

MOUNT DIABLO MERIDIAN - The principal meridian governing surveys in much of California and all of Nevada; it was adopted in 1851.

MOVE - A correction in position to be applied to a temporary stake so that the resulting point will be located at its proper position. Usually calculated as a distance north or south as well as a distance east or west, the plural is common, i.e.; the moves are 6.5 lks. south and 2.1 lks. east. See CORNER MOVE.

MUNICIPAL RESERVES - Areas within a townsite which are reserved for the town. Areas within a townsite which are surveyed and set aside for the purposes of the legally incorporated or duly authorized association of the inhabitants of the town. See TOWNSITE.

N

NATIONAL FOREST - A reservation of a forest or watershed which is administered by the Forest Service, United States Department of Agriculture.

NATIONAL FOREST EXCHANGE - An exchange whereby the Federal Government receives title to lands within a National Forest.

NATIONAL FOREST HOMESTEAD ENTRY - A homestead entry, not exceeding 160 acres, initiated under the Act of June 11, 1906 (34 Stat. 233, 16 U.S.C. sec. 506), which provided for the homesteading within National forests of public lands classified and listed as more valuable for agricultural than for forestry purposes. (Repealed October 23, 1962.)

NATIONAL FOREST HOMESTEAD ENTRY SURVEYS - Under the Act of June 11, 1906 (34 Stat. 233, 16 U.S.C. sec. 506), surveys of homestead entries within national forests were performed, usually, by Forest Service surveyors under Special Instructions from, and subject to approval by the General Land Office. This Act was repealed Oct. 23, 1962 (76 Stat. 1157), and these surveys are no longer executed.

NATIONAL FOREST HOMESTEAD LANDS - Public lands in National Forests which were opened to National Forest homestead entry.

NATIONAL FOREST LIEU SELECTION - A parcel of land chosen to replace land located within a national forest, the rights to which were relinquished prior to March 3, 1905.

NATIONAL MEMORIAL - A reservation embracing memorials of national interest which is administered by the National Park Service, United States Department of the Interior.

NATIONAL MONUMENT - A reservation embracing objects of historic and scientific interest which is administered by the National Park Service, United States Department of the Interior.

NATIONAL PARK - A reservation embracing recreational areas which is administered by the National Park Service, United States Department of the Interior.

NATIONAL RESOURCE LANDS - All of the lands administered by the Bureau of Land Management.

NATIVE ALLOTMENT (Alaska) - Under the terms and provisions of the Act of May 17, 1906, the Secretary of the Interior is authorized to allot not as amended, to exceed 160 acres of vacant, unappropriated and unreserved nonmineral land in Alaska; or, subject to the provisions of the Act of March 8, 1922, of vacant, unappropriated and unreserved public land in Alaska that may be valuable for coal, oil or gas deposits; or, under certain conditions, of National Forest Lands in Alaska, to any Indian, Aleut or Eskimo of full or mixed blood who resides in and is a native of Alaska, and who is the head of a family, or is twenty-one years of age. An allotment will not be made until the lands are surveyed by BLM, and until satisfactory proof of 5 years continuous use and occupancy by the applicant has been approved by the Director of BLM.

NATIVE TOWNSITE (Alaska) - The Act of May 25, 1926, provides for the townsit survey and disposition of public lands set apart or reserved for the benefit of Indian or Eskimo occupants in trustee townsites in Alaska, and for the survey and disposal of the lands occupied as native towns or villages. The Act of Feb. 26, 1948, provides for the issuance of an unrestricted deed to any competent native for a tract of land claimed and occupied by him within any such trustee townsit. Native towns occupied partly by white occupants are to be surveyed under the provisions of both the Act of March 3, 1891, and the Act of May 25, 1926.

NAVAJO EXCHANGE - An exchange whereby the Federal Government receives title to lands within the Navajo Indian Reservation.

NAVAJO LIEU SELECTION - A lieu selection in connection with which the applicant relinquishes rights to land within the Navajo Indian Reservation.

NAVAJO MERIDIAN - The principal meridian governing surveys in a small part of northeastern Arizona; it was adopted in 1869. Originally, it also governed surveys in a small part of northwestern New Mexico. Only a few townships governed by it were surveyed in New Mexico and no disposals based upon those surveys were made. The Commissioner of the General Land Office, by letter dated July 28, 1936, canceled the Navajo Meridian and the surveys based on it in the State of New Mexico.

NAVAL RESERVE - A reservation for naval purposes.

NAVIGABILITY, LEGAL CONCEPT OF - The doctrine laid down by the Supreme Court in *The Daniel Ball*, 10 Wall. 557 (1871), to wit: "Those rivers must be regarded as public navigable rivers in law which are navigable in fact. And they are navigable in fact when they are used, or are susceptible of being used, in their ordinary condition, as highways for commerce, over which trade and travel are or may be conducted in the customary modes of trade or travel on water."

NAVIGABLE WATERS - Waters which afford a channel for useful commerce or travel. The beds of navigable bodies of water are not public domain and are not subject to survey and disposal by the United States. Under the laws of the United States the navigable waters have always been and shall forever remain common highways. This includes all tidewater streams and other important permanent bodies of water whose natural and normal condition at the date of the admission of a State into the Union was such as to classify the same as navigable water.

NEAP TIDES - Tides of decreasing range occurring semimonthly as the result of the moon being in quadrature; that is, when the tidal forces of sun and moon act at right angles to each other on the waters of the earth. Tides during these periods do not rise as high or fall as low as during the rest of the month. See **TIDE**.

NEW MEXICO PRINCIPAL MERIDIAN - The principal meridian governing surveys in New Mexico and the southwestern part of Colorado; it was adopted in 1855.

NONIUS - A scale featuring concentric circles used in determining angles. It was named for a Portuguese mathematician and geographer, Nunez (1492-1577). Later, the nonius was replaced by the vernier scale (named for Dutch mathematician Peter Werner who, in his writings, used the name "Pierre Vernier"). As late as 1879, in Germany, a vernier was called a nonius.

NONNATIVE TOWNSITES, ALASKA - The entry of public lands in Alaska for townsites purposes, by such trustee or trustees as may be named by the Secretary of the Interior for that purpose, is authorized by section 11 of the act of March 3, 1891.

NONRESPONSIVE BIDS - Contract bids not conforming to the substance of the bid invitation are nonresponsive and may not be considered for award. The substance of the invitation includes the terms, conditions and specifications which affect price, quality, quantity and delivery terms.

NON RIPARIAN BROKEN BOUNDARY - A colloquial term which refers to the meander lines along a water boundary. The water is the actual (riparian) boundary and the meander line is the representative (nonriparian) boundary.

NON RIPARIAN BROKEN BOUNDARY ADJUSTMENT - 1) A mathematical solution for restoring or determining the position of angle points of record courses by applying a correction to each record course based proportionately upon the length of the course. 2) The method generally used to mathematically close (balance) a figure in order to determine area. 3) May be referred to as the "Compass Rule." See **NON RIPARIAN BROKEN BOUNDARY**, **BROKEN BOUNDARY ADJUSTMENT**, **COMPASS RULE** and **ADJUSTMENT**.

NON RIPARIAN MEANDER LINE - Any meander line which is surveyed as a fixed boundary or is reestablished as a fixed boundary. See **FIXED BOUNDARY**.

NORTHWEST ORDINANCE (1787) - An ordinance enacted by the Congress of the Confederation to provide for government of the Old Northwest Territory (Territory northwest of the Ohio River), and for the formation and admission of new states. The provisions were reenacted on Aug. 7, 1789 following the adoption of the Constitution. See TERRITORY NORTHWEST OF THE OHIO RIVER.

NORTHWEST TERRITORY - See TERRITORY

NORTHWEST OF THE OHIO RIVER.

NOTCHES - V-shaped indentations cut upon the exposed vertical edges of a stone monument where the vertical edges of the stone have been turned to the cardinal.

NUMBERED CORNER - A corner of BLM special survey which is assigned a number as part of the cadastral survey. Examples include corners of placer claims, corners of mineral claims, and some land grant corners. These corners are not the same as angle points.

OP. CIT. SUPRA. - An abbreviation for opus citum supra meaning "in the work cited above." Used to avoid repeating a full citation when referring to a book previously cited. Sometimes op. cit. See SUPRA and INFRA.

ORTHER DICTUM - Also called "dictum." That which is said in passing. Where the court, in rationalizing its position, uses language broader than is needed for disposition of the point at issue. If the court's statement is merely illustrative or background material not required in the determination of the issues presented, it is within the category of obiter dictum. Dictum lacks the force of an adjudication and does not fall within the doctrine of stare decisis. See STARE DECISIS and ADJUDICATION.

OBLIQUE MERCATOR PROJECTION - A map plotting system in which points on the ellipsoid are mathematically projected onto a cylinder or oriented tangent to an oblique line at the map center; used in one of the Alaska State Plane coordinate systems.

OBTLIATED CORNER - An obliterated corner is one at whose point there are no remaining traces of the monument, or its accessories, but whose location has been perpetuated, or the point for which may be recovered beyond reasonable doubt, by the acts and testimony of the interested landowners, competent surveyors, or other qualified local authorities, or witnesses, or by some acceptable record evidence.

OCCUPY - 1) To set a surveying instrument over a point for the purpose of making observations. 2) To take or enter upon possession of land.

O & C EXCHANGE - An exchange, by the Federal Government, of reversioned Oregon and California Railroad Co. or reconveyed Coos Bay Wagon Road lands for other lands. See O & C LANDS.

O & C LANDS - 1) A public land survey which has the field notes approved, the publication in the Federal Register, if necessary. See ACCEPTED SURVEY, APPROVED SURVEY and MINERAL SURVEY.

OFF-LINE CLOSING CORNER - A closing corner monument that was not actually located on the line that was closed upon. Such a monument controls the direction of the closing line, but is not its legal terminus.

OFFSET - 1) Moving over to a parallel line in order to avoid an obstacle. 2) A process in the running of a parallel of latitude by means of a straight line with measured (offset) distances to the curve.

OMITTED LANDS - Lands that were in place at the time of survey but are not shown on the original township plat, and which are so situated as to have been excluded from the survey by some gross discrepancy in the location of a meander line as given by the field-note record. This term is not applicable to areas where changes can be traced to erosion, accretion or changes in the water level subsequent to survey. See **OMITTED LAND SURVEY**.

OMITTED LAND SURVEY - "The survey of lands exposed by changes in water level or accreted subsequent to survey are not erroneously omitted lands. This title is applied to lands, not shown on the plat of original survey, which were excluded from the survey by some gross discrepancy in the location of the meander line. The unsurveyed land typically lies between the actual bank of a lake, stream, or tide water and the record meander line." (BLM, 1973, paragraph 7-77).

ONE-EIGHTH (1/8) CORNER - A one-sixteenth (1/16) section corner. The designation "1/8 corner" was used in some of the older subdivision-of-section surveys.

ONE THIRTYSECOND (1/32) CORNER - A one-sixtyfourth (1/64) section corner. The designation "1/32 corner" was used in some of the older subdivision-of-section surveys, especially the 20 acre Indian Allotment surveys.

OPUS CITUM SUPRA - In the work cited above. Usually abbreviated "op. cit. supra" or "op. cit."

ORDINAL NUMBER - A number designating the place (as first, second, third) occupied by an item in an ordered sequence. There are six principal meridians named ordinal numbers, beginning with the First Principal Meridian.

ORDINANCE OF MAY 20, 1785 - The first land ordinance, it was entitled "An Ordinance for ascertaining the mode of disposing of lands in the western territory." It was adopted by the Continental Congress on May 20, 1785. Under its terms the rectangular system of surveys was inaugurated. Six- mile square townships extended north from the Ohio River and were numbered south to north. Ranges were numbered east to west. Sections (called lots) were numbered from 1 to 36 from south to north in each range with number 1 in the southeast corner. Also included was the provision that, in each township, section 16 would be set aside for the maintenance of public schools. See **SEVEN RANGES**, **THE**, **GEOGRAPHER'S LINE**, **THE**.

ORDINARY HIGH WATER - When used in reference to tidal waters, synonymous with mean high water. When referring to inland streams and lakes it is the same as mean high-water. See **HIGH-WATER MARK** and **MEAN HIGH WATER**.

OREGON AND CALIFORNIA REVESTED LANDS ADMINISTRATION - A branch of the General Land Office which was charged with the administration of the O & C and Coos Bay Wagon Road Lands. See **O & C LANDS** and **COOS BAY WAGON ROAD LANDS**.

OREGON TERRITORY CESSION - Under the terms of the Oregon Compromise, in 1846, the territory now occupied by the States of Idaho, Oregon and Washington and parts of Montana and Wyoming was ceded to the United States by Great Britain. This cession provided the United States with more than 183 million additional acres of public lands.

ORGANIZED MINING DISTRICT - A section of the country usually designated by name and described or understood as being confined within certain natural boundaries, in which the precious metals for their ores) are found in paying quantities, and which is worked therefor, under rules and regulations prescribed or agreed upon by the miners therein. See **MINERAL DISTRICT** and **UNORGANIZED MINING DISTRICT**.

ORIGINAL ENTRY - When application to acquire title to public lands and the applicant is permitted to proceed with earning title to the land under the governing laws and regulations. See **ENTRY**, **FINAL ENTRY**, **CASH ENTRY** and **COMMUTED HOMESTEAD ENTRY**.

ORIGINAL PUBLIC DOMAIN ACQUISITIONS - All the lands, regardless of whether they are still in Federal ownership or not, which the Federal Government

obtained by cession from the 13 Original States (1789-1802), by the Louisiana Purchase (1803), by the cession from Spain (1819), by the occupation of the Oregon Territory (1846), by the Mexican Cession (1848), by the purchase from Texas (1850), by the Gadsden Treaty (1853), and by the purchase of Alaska (1867). The drainage basin of the Red River of the North, south of the 49th parallel and west of the cessions by the 13 Original States, is a part of the original public domain. Authorities differ as to the method and to the exact date of its acquisition by the United States, some holding that it was part of the Louisiana Purchase. The area included within the present boundaries of the State of Tennessee, although included in the cessions of the 13 Original States, is usually not considered a part of the original public domain because, by the terms of its cession, the State of North Carolina passed title to only a small acreage in that area to the United States. The United States in turn ceded its unappropriated lands to the State of Tennessee. The submerged lands granted to the states under Public Law 31 (the Submerged Lands Act) have been held to be a part of the original public domain (U.S. Supreme Court decision of Mar. 15, 1954). See PUBLIC DOMAIN, PUBLIC LANDS and PUBLIC LAND STATES.

ORIGINAL SURVEY - A cadastral survey which creates land boundaries and marks them for the first time.

OUT - A measurement term used in some field notes and deeds in the early 1800's, it is the equivalent of chains. Tiffin's 1815 instructions called for the use of "a two pole chain of 50 links," so when the chainman was "out" of chaining pins he had covered a distance of 5 chains. See POLE AND OUTKEEPER.

OUTBOUNDARIES - The township and range lines around the perimeter of a survey area, particularly the controlling lines around the perimeter of an independent resurvey.

OUTER CONTINENTAL SHELF - That portion of the continental shelf seaward of state boundaries as defined in the Submerged Lands Act (43 U.S.C.A., sec. 1301 et seq.). It is spoken of, generally, as that part of the continental shelf beyond the "three mile limit." It extends from there to the continental talus, a depth of approximately 100 fathoms. See CONTINENTAL SHELF, TALUS, SUBMERGED LANDS ACT and OUTER CONTINENTAL SHELF LANDS ACT.

OUTER CONTINENTAL SHELF LANDS ACT - Also known as Public Law 212. An act passed during the 1st session of the 83rd Congress and signed into law Aug. 7, 1953. It provides for the jurisdiction, control and administration by the United States over the submerged lands seaward of the state's boundaries as defined in the Submerged Lands Act (Public Law 31); that is over the outer continental shelf. Senate Report 411, regarding this act, made it clear that the outer edge of the shelf is the point where the continental slope leading to the true ocean bottom begins and that this point is generally regarded as the depth of approximately 100 fathoms. At the 1958 Geneva Conference, the Geneva Convention on the Continental Shelf adopted the 100-fathom depth curve as a minimum limit and beyond that if exploitation is feasible. See CONTINENTAL SHELF, SUBMERGED LANDS ACT, CON- TINENTAL TALUS and OUTER CONTINENTAL SHELF.

OUTKEEPER - On older style surveyor's compasses, a scale numbered 1 to 16, with a pointer that was turned by a milled knob to keep track of the "Outs"; 8 Outs equal 40 chains; 16 Outs equal 80 chains. See OUT.

OUTLINES - An obsolete term sometimes used in older manuals of surveying instruction to refer to township boundaries.

OUT OF LIMITS - Exceeds linear and/or angular limits as set forth in the Manual of Surveying Instructions. Also, outside rectangular limits. See RECTANGULAR LIMITS.

OVERFLOWED LANDS - Lands which are annually or periodically subject to natural flooding during the normal planting, growing or harvesting seasons of a region to such an extent that they are rendered wet and unfit for the cultivation of the staple crops of that region, unless artificially drained or protected. See SWAMP, SWAMP AND OVERFLOWED LANDS and SWAMP LANDS ACTS.

P

PANELING - Marking points on the ground with material of suitable contrast, size, and shape to provide images which can be positively identified on aerial photographs.

PARALLEL - See STANDARD PARALLEL.

PARALLEL OFFSET METHOD - A method of traversing around obstacles and maintaining a line parallel to, and offset a measured distance from, the survey line.

PARENTHETICAL DISTANCE - Distances noted on the plats in parentheses are those regular and fractional portions of lines constituting the boundaries of the quarter-quarter sections and fractional subdivisions bounded thereby. Parentheses are used where the record is not supplied by the field notes, indicating that the distance was not measured on the ground. The figures show what was used in the calculation of areas. The same lengths are to be adopted proportionately whenever there is a need for an establishment of sixteenth-section corners on the section boundaries, and for control points for the subdivision of sections. See PROTRACTION and PROTRACTION DIAGRAM.

PARK ENTRY - A cash entry by an incorporated municipality of public lands which will be used for municipal park purposes.

PAROL (Parole) - Executed by word of mouth, or by writing not under seal. Also means a spoken promise. In its usual usage in criminal law; the promise of a prisoner to fulfill stated conditions in consideration of his release. See PAROL AGREEMENT, PAROL CONTRACT and PAROL EVIDENCE.

PAROL AGREEMENT - An oral agreement between the owners establishing the boundary dividing adjacent land.

PAROL CONTRACT - Any contract not of record or under seal.

PAROL EVIDENCE - Evidence gathered by testimony of witnesses. Sometimes "parole evidence." A witness who gives verbal evidence concerning positive knowledge of the location of an original monument prior to its destruction is said to give "parol evidence."

PARTITION LINE - A survey line which cuts off a required area of a given parcel of land.

PASSING CALLS - Found frequently in cadastral surveyor's field notes, they are calls for (references to) cultural or topographic features along a survey line. Passing calls are sometimes used to locate a line or to recover obliterated corners.

PATENT - A document by which the United States conveys, to those entitled thereto, legal title to some portion of the public lands. See PATENT, TRUST, PATENT, CURATIVE, FEE SIMPLE and DEED.

PATENT, CURATIVE - An instrument issued to Correct a patent. Patents issued in error may be annulled. Patents obtained fraudulently may be canceled. Patents with conditions may be amended by new patents without conditions. Such actions and documents are authorized only in special situations recognized by public land laws and agency regulations.

PATENT, TRUST - A trust patent vests title in the Bureau of Indian Affairs as trustee for an Indian. Upon termination of the trust status of the Indian, a patent issues conveying fee-simple title to the Indian.

PEDIS POSSESSIO - Actual possession of real property implying actual occupancy or enclosure and use.

PENULTIMATE - Next to the last. The next to the last member in a series, such as the next to the last paragraph in a letter or the next to the last syllable of a word.

PERCH - A unit of linear measure equal to 25 links or 161/2 feet. Also termed a "pole" or "rod." In land area, a square rod; 272.25 square feet or .00625 acre.

PERPETUATION OF CORNERS - Establishment of points or other evidence which preserves the location of a corner. See **REHABILITATE** and **REMONUMENTATION**.

PER SE - Of itself; taken alone; unconnected with other matters.

PERSONAL PROPERTY - In a broad and general sense, everything that is the subject of ownership, excluding real property. See **REAL PROPERTY**.

PHOTOGRAMMETRIC RESURVEY - A survey, using a system combining photogrammetry and resurvey methods to re-establish the evidence of a prior official survey.

PHOTOGRAMMETRIC SURVEY - An original survey in which monuments are placed at corner positions which have been pre-determined by photogrammetric techniques and equipment.

PHOTOGRAMMETRY - The science or art of obtaining reliable measurements by means of photographs.

PIN, CHAINING - A metal pin used for marking intermediate measurements on the ground. In "tally chaining" with a five chain tape a set would consist of 9 pins. See **OUT**, **TALLY** and **ARROW**.

PITS AND MOUNDS - A system of witnessing public land survey corner stakes in prairie country.

PITTMAN ACT ENTRY - An entry of public lands in Nevada made by an individual or association of individuals who earned the right to acquire title to the lands through discovery of underground sources of water

PITTMAN UNDERGROUND WATER ACT - The Act of October 22, 1919, under the terms of which an entry of public lands in Nevada could be made by an individual or association of individuals who earned the right to acquire title to a portion of the public lands through discovery of underground water sources.

PLACE LANDS - Lands granted in aid of a railroad company which are within certain limits on each side of the road, and which became instantly fixed by the adoption of the centerline of the railroad. See **INDEMNITY LANDS**, **GRANT IN PLACE** and **QUANTITY GRANT**.

PLACER - An alluvial or glacial deposit containing particles of valuable minerals. See **PLACER CLAIM**, **PLACER LOCATION**, **MINERAL SURVEY**, **LODE**, and **VEIN**.

PLACER ACT OF 1870 - Under this act, placer claims included "all forms of deposit, excepting veins of quartz, or other rocks in place" It did not restrict placer claims to valuable deposits, probably due to an oversight. There was no provision for the reservation of known lodes within placer patents. Placer locations were limited to not more than 160 patents acres for any person or association of persons, though patents for additional acreages could be issued where adjoining claims had been purchased by the locator. See **MINING ACT OF 1866**, **MINING LAW OF 1872** and **PLACER LAW OF 1897**.

PLACER CLAIM - A mining claim located on the public domain for the purpose of placer mining. Under U.S. mining laws, mineral deposits not veins or lodes in place, are treated as placers so far as locating, holding, surveying, and patenting are concerned. Revised Statutes, sec. 2331 (30 U.S.C., sec- 35) provides that all placer-mining claims located after May 10, 1872, shall conform as nearly as practicable with the United States system of public land surveys and the rectangular subdivision of such surveys, and such locations shall not include more than 20 acres for each individual claimant (43 C.F.R. 3842.1-2(b)).

PLACER LAW OF 1897 - This law provided that petroleum lands might be entered and patented under the placer mining laws and led, eventually, to the leasing of public lands valuable for minerals.

PLACER LOCATION - A placer claim located and occupied on the public domain.

PLAINTIFF - A person who brings an action; the party who complains or sues in a personal action and is so named on the record. See **DEFENDANT**.

PLANE COORDINATES - In general, coordinates specifying the location of points in a plane. In surveying use, the "plane" is usually a projection of the earth's surface such as a developed cone or cylinder.

PLAT - As used technically by the BLM, the drawing which represents the particular area included in a survey, such as a township, private land claim or mineral claim, and the lines surveyed, established, retraced or resurveyed, showing the direction and length of each such line the relation to the adjoining official surveys; the boundaries, descriptions, and area of each parcel of land subdivided; and, as nearly as may be practicable, a representation of the relief and improvements within the limits of the survey. See **BASE PLAT**, **SUPPLEMENTAL PLAT**, **MASTER TITLE PLAT**, **USE PLAT**, **STATUS DIAGRAM** and **APPROVED SURVEY**.

POCKET PARTS - Revisions prepared for bound law books to them current. The name comes from the fact that these supplements, usually in pamphlet form, are stored in a pocket inside the back cover of the volume updated.

POINT - A position or location in a reference system determined by survey.

POINT OF BEGINNING, THE - A point on the west boundary of the State of Pennsylvania at the north bank of the Ohio River is the point of beginning for the survey of the public lands of the United States The point was marked by a stake on August 20, 1785.

POINT OF DISCOVERY - In mining, the precisely indicated position at which a valuable mineral is exposed to view. In the absence of proof to the contrary, the discovery point is held to be the center of the vein on the surface. See **DISCOVERY** and **VEIN DISCOVERY**.

POINT ON LINE - A stake or object a surveyor has placed on a line for convenience, such as for a backsight. Points on line are set in prominent places to facilitate identification of lines. Modern BLM cadastral surveys may refer to points on line as Witness Points. Points on Line may also be Line Trees.

POLE - Also termed "perch" and "rod"; a unit of length in land measurement, equal to 25 links or 16.5 feet.

POSSESSION - Exercise of the right to use real property to the exclusion of others. See **PEDIS POSSESSIO**.

POSSESSION IS NINE-TENTHS OF THE LAW - This adage is not to be taken as true to the full extent. It does, however, focus light on the legal truth that every claimant must succeed by the strength of his own title and not by the weakness of his antagonist's Prior to passage of statutory mining laws in this country, miners made this, quite literally, their rule.

POWER-SITE RESERVE - A reservation of public lands which have been classified as having potential value for water power development and which have been so designated under the Act of June 20, 1910 (39 Stat. 557), June 9, 1916 (39 Stat. 218), or Feb. 26, 1919 (40 Stat. 1178). See **FEDERAL POWER PROJECT RESERVATION**.

PRAESENTI - See **IN PRAESENTI**.

PRECISION - A quality associated with the refinement of instruments and measurements, indicated by the degree of uniformity and repeatability of observations.

PREEMPTION ENTRY - An entry of public lands for purchase under the preemption laws. These laws, now repealed, gave the entryman a preferred right to acquire the land by virtue of his occupation and improvement to it.

PREEMPTION RIGHT - The right given to settlers upon the public lands of the United States to purchase such lands in preference to other persons. This right was granted under preemption laws now repealed.

PRESCRIPTION - The manner of acquiring adverse rights in another's land. Prescriptive rights are similar to "adverse possession" but that term is used for title interest. "Prescription" refers to rights of use in land belonging to another, such as right of access, grazing rights or the right to divert flood waters. See **ADVERSE POSSESSION** and **PRESCRIPTIVE RIGHT OF WAY**.

PRESCRIPTIVE RIGHT OF WAY - A right of way based upon its adverse use extending to the limits of tradition and memory. In contrast, a right of way by dedication exists by the consent, either expressed or implied, of the owner of the land crossed. If a claim to a right of way is based upon the fact that the owners of a certain ranch have "always" driven across a portion of another ranch, that may be the basis for a "prescriptive," right of way. See **ADVERSE POSSESSION** and **PRESCRIPTION**.

PRESIDENT'S SIGNATURE ON LAND PATENTS - Prior to 1833, the President personally signed each land patent before issuance by the General Land Office. Beginning in 1833, the President's name was written on every land patent by an authorized secretary or executive clerk. The necessity for the President's signature on all land patents was eliminated by law on June 17, 1948.

PRIMA FACIE - Latin. At first sight; on the first appearance; on the face of it; a fact presumed to be true unless disproved by some evidence to the contrary. Evidence good and sufficient on its face is prima facie evidence.

PRIMARY LIMITS - In railroad and wagon road grants, the strip of land lying within a specified distance on each side of, and adjacent to, the right of way, within which (usually) every odd-numbered section was granted. Also the outside boundaries of this strip. The term "place limits" is sometimes used to indicate primary limits. See **INDEMNITY LIMITS**.

PRINCIPAL MERIDIAN - The meridian extended from an initial point, upon which regular quarter-section, section and township corners have been or are to be established. "A principal meridian is intended to conform to the true meridian, extending north or south or both directions, from the initial point as conditions require." (BLM 1973, paragraph 3-8.) See **GUIDE MERIDIAN** and **AUXILIARY GUIDE MERIDIAN**.

PRIVATE EXCHANGE - An exchange between the Federal Government and any landowner other than a State. See **EXCHANGE**, **STATE EXCHANGE** and **TAYLOR ACT EXCHANGE**.

PRIVATE LAND CLAIM - A claim to a tract of land which is based on the assertion that title thereto was granted to the claimant or his predecessors in interest by a foreign government before the territory in which it is situated was acquired by the United States; also, the land so claimed. See **DONATION LAND CLAIM**.

PRIVATE LAND GRANT - Land, title to which was conferred by a predecessor government and confirmed by the Federal government after the territory in which it is situated was acquired by the United States, ie., the Spanish land grants in the Southwest.

PROJECT INSPECTOR - An employee designated by the Contracting Officer's Authorized Representative to directly inspect the work and enforce the terms of the contract.

PROPERTY - Used commonly to denote everything which is the subject of ownership. It extends to every species of valuable right and interest, and includes real and personal property. See **PERSONAL PROPERTY**, **REAL PROPERTY** and **REAL ESTATE**.

PROPORTIONATE MEASUREMENT - A proportionate measurement is one that applies an even distribution of a determined excess or deficiency of measurement, ascertained by retracement of an established line, so as to give concordant relation between all parts; that is, the new values given to each of the

several parts, as determined by the measurement, shall bear the same relation to the record lengths as the new measurement of the whole line bears to that record. It should be noted that the rule is not ordinarily applicable in treating gross error or blunder, if the latter can be definitely segregated. See DOUBLE PROPORTIONATE MEASUREMENT and SINGLE PROPORTIONATE MEASUREMENT.

PRORATION - Proportionate measurement, division, distribution or adjustment. See PROPORTIONATE MEASUREMENT.

PROTECT THE PLAT - The responsibility of the surveyor to examine, weigh and interpret the available evidence in respect to the execution of a resurvey, looking to the protection of the valid rights acquired under the original survey as shown by the plat. The bona fide rights of claimants are protected under the Constitution and the Act of March 3, 1909 as amended by the Act of June 25, 1910, and by provisions under the Act of September 21, 1918. See INTERPRETATION OF PLAT.

PROTEST - A formal statement of objection, dissent, or disapproval in regard to some act about to be done or already performed, such as an objection to an application, entry, claim, etc.

PROTRACTION - The word means extension; prolongation. An example of its use would be the representation on paper of the fractional lots in the north and west tiers of sections within a township. These lines are not monumented on the ground. They are shown on the plat as protractions (dashed lines) indicating that they were not run in the field. The distances given are parenthetical until they are actually surveyed. See PROTRACTION DIAGRAM.

PROTRACTION DIAGRAM - A diagram representing the plan for the extension of the rectangular system over unsurveyed public lands, based upon computed values for the corner positions. (BLM, 1973, paragraph 2-14) Only BLM approved protraction diagrams are official government records.

PRUDENT MAN TEST - Also called "prudent man rule." In determining whether or not a mineral deposit is "valuable" under the meaning of the law, discovered deposits must be of such a character that a person of ordinary prudence would be justified in the expenditure of his labor and means, with a reasonable prospect of success, in developing a paying mine. See MARKETABILITY TEST.

PUBLIC DOMAIN - The term applied to any or all of those areas of land ceded to the Federal Government by the Original States and to such other lands as were later acquired by treaty, purchase or cession, and are disposed of only under the authority of Congress. See ORIGINAL PUBLIC DOMAIN ACQUISITIONS, PUBLIC LANDS, PUBLIC LAND STATES and FEDERAL LAND.

PUBLIC LAND LAWS - The laws which have been passed by the Congress concerning the administration of the public lands and the resources thereon.

PUBLIC LAND ORDER - An order effecting, modifying or canceling a withdrawal or reservation. Such an order is issued by the Secretary of the Interior pursuant to powers of the President delegated to the Secretary by Executive Order No. 9146 of April 24, 1943.

PUBLIC LANDS - (1) The term "public lands" means any land and interest in land owned by the United States within the several States and administered by the Secretary of the Interior through the Bureau of Land Management, without regard to how the United States acquired ownership, except:

(a) lands located on the Outer Continental Shelf; and

(b) lands held for the benefit of Indians, Aleuts, and Eskimos. See. 103(e) 43 U.S.C. 1702. (2) Includes a) the remaining public domain of the United States, b) reservations, other than Indian reservations, created from the public domain, c) lands withdrawn, reserved or withheld from private appropriation and disposal under the public land laws, including the mining laws, d) outstanding interests of the United States in lands which have been patented or otherwise conveyed under the public land laws, e) National Forests, f) wildlife refuges and ranges, and g) the surface and subsurface resources of all such lands. See ORIGINAL

**PUBLIC DOMAIN ACQUISITIONS, PUBLIC DOMAIN, PUBLIC LAND STATES and
FEDERAL LAND.**

PUBLIC LAND STATES - Those states created out of the public domain of the United States. They are: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Florida, Idaho, Illinois, Indiana, Iowa, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Mexico, North Dakota, Ohio, Oklahoma, Oregon, South Dakota, Utah, Washington, Wisconsin and Wyoming. PUBLIC LAW 31 (May 22, 1953)-See SUBMERGED LANDS ACT.

PUBLIC LAW 167 - (July 23, 1955, 69 Stat. 357) Provides for multiple use of mining claims, and for a procedure where the Government may determine that it has the right to manage surface resources not required for mining purposes.

PUBLIC LAW 212 (August 7, 1953) - See OUTER CONTINENTAL SHELF LANDS ACT.

PUBLIC LAW 359 - (Aug. 11, 1955, 69 Stat. 681) Provides for the location of mining claims on lands reserved or withdrawn for power or powersite purposes.

Q

QUADRANGLE MAP - A map of a four sided figure bounded by parallels of latitude and meridians of longitude.

QUALIFIED (as a witness) - Persons who are accepted by the court as being professionally skilled and knowledgeable in a particular field of study or science, as surveying. See **WITNESS** and **EXPERT WITNESS**.

QUANTITY GRANT - A grant in connection with which the Congress specifies only the number of acres or the general type of public lands which are granted and which the grantee will secure by making selections from available public lands. See **GRANT IN PLACE**, **INDEMNITY LANDS** and **PLACE LANDS**.

QUARTER-QUARTER SECTION CORNER - See **SIXTEENTH SECTION CORNER**.

QUARTER-SECTION CORNER - A corner at an extremity of a boundary of a quarter section. Written as 1/4 section corner, not as one fourth section corner.

QUARTER SECTION - One-fourth of a section, containing 160 acres more or less. See **SECTION**, **QUARTER**.

QUASI - As if. Almost as if it were. Seen often in terms such as "quasi-legal" or "quasi-judicial."

QUIET TITLE - In the legal proceeding called "action to quiet title," the word "quiet" means to pacify; to render secure or unassailable by the removal of unsettling causes or disputes. Under this proceeding, the plaintiffs title to land is established by bringing into court an adverse claimant and there compelling him either to establish his claim or be forever after estopped from asserting it. See liability of any kind as to title conveyed or encumbrances. See **ESTOPPEL**.

QUITCLAIM DEED - A deed in the nature of a release containing words of conveyance as well as release. It conveys any interest the maker may have in the property described without any representations or liability of any kind as to title conveyed or encumbrances that may exist thereon. A patent from the Government is a quitclaim deed

Q. V. - An abbreviation of "quod vide," used to refer a reader to the word, chapter etc., the name of which it immediately follows. Quod vide means which see.

R

RAILROAD GRANT - Usually, title to railroad grant lands passed under patent conveyances. These grants were made to railroads to aid in their construction, and covered designated sections within specified grant limits. Prior to 1875, railroad right-of-way grants conveyed a hybrid type of interest in the public lands. Laws authorized each grant and set forth the limits of the grant and the lands granted. In determining these limits, and ascertaining the interests obtained under the various grants, legal advice may be required. See **INDEMNITY LANDS**; **PLACE LANDS**; **RAILROAD GRANT, ADJUSTED OR UNADJUSTED**; **RAILROAD INDEMNITY SELECTION** and **RAILROAD LIEU SELECTION**.

RAILROAD GRANT, ADJUSTED OR UNADJUSTED - If the legal processing (adjudication) was terminated, and the grantee received all the lands to which entitled or as much as it was possible to give under the terms of the grant, prior to the Transportation Act of 1940, it is termed an "adjusted" railroad grant. If the adjudication was not completed prior to that time, it is called an "unadjusted" railroad grant. See **RELEASED RAILROAD CLAIM**.

RAILROAD INDEMNITY SELECTION - A lieu selection, which is made by a railroad, based upon rights to railroad grant lands lost to the railroad within the primary limits, selection being made within the indemnity limits. See **RAILROAD LIEU SELECTION**.

RAILROAD LIEU SELECTION - A lieu selection, which is made by an applicant other than a railroad, based upon the relinquishment of rights to land within a railroad grant. See **RAILROAD INDEMNITY SELECTION**.

RAILROAD TOWN-SITE RESERVATION - A reservation, along a proposed or existing railroad line in Alaska, of public lands which are valuable or potentially valuable as a town site.

RANDOM LINE - A trial line run from one monument toward the next monument so that the difference in latitude and departure between monuments may be determined and the true line may be computed. On the trial line, temporary intermediate corners are set. Offsets may then be computed from the temporary corners to the correct positions on the true line. See **TRUE LINE**, **RANDOM AND TRUE AND CORNER MOVE**.

RANDOM AND TRUE - A survey method whereby a trial line is run to connect two monuments. With the data obtained while running the trial line, the true line is computed and rerun.

RANGE - A north-south tier of townships or sections. A range of townships is described by its relationship to the principle meridian.

RANGE LINE - A boundary of a township surveyed in a north-south direction. See **TOWNSHIP LINE**.

REACH (of a river) - A continuous unbroken portion of a river, particularly a straight stretch.

REACQUIRED LANDS - See **ACQUIRED LANDS**.

REAL ESTATE - An ownership interest in real property. In common usage it has come to mean the property itself. See **REAL PROPERTY**.

REAL PROPERTY - Land and generally whatever is erected upon, growing on or affixed to the land. See **PROPERTY**.

RECEIVER - An official in the Washington office of the General Land Office who was authorized to accept cash payments for public lands and resources. Receivers could not be appointed until there was sufficient land surveyed to authorize the opening of land offices since they were assigned to land offices to perform their duties. All reference to Receivers was dropped following the Act of March 3, 1925, which provided for the consolidation of the offices of Receiver and Register. See **REGISTER**.

RECESSION OF WATER - A legal expression that is applied to the gradual,

natural and more or less permanent lowering of the surface elevation of a lake, or its complete disappearance, when referred to what at one time had been regarded as the normal (as at the date of an established survey). See RELICTION.

RECLAMATION HOMESTEAD ENTRY - An entry initiated under the act of June 17, 1902 (32 Stat. 338; 43 U.S.C., sec. 43 et seq.), which provides for the issuance of patents to entrymen who settle upon and improve agricultural public lands, not exceeding 160 acres in size, within reclamation projects.

RECLAMATION PROJECT - A water development project, for irrigation of arid lands and for other purposes, which is administered by the Bureau of Reclamation, United States Department of the Interior.

RECLAMATION STATES - The public-land States in which the Bureau of Reclamation is authorized to function, viz., Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Utah, Washington, and Wyoming.

RECLAMATION TOWN LOT - A town lot of a town site which is within a reclamation project.

RECLAMATION WITHDRAWAL - A withdrawal of public lands in connection with a reclamation project. See FIRST FORM RECLAMATION WITHDRAWAL and SECOND FORM RECLAMATION WITHDRAWAL.

RECONSTRUCTED - The same as "rehabilitated." Used in section 215 of the 1930 Manual of Surveying Instructions as follows: "...such original corners, if not in a good state of preservation, will be reconstructed in first-class order,..."

RECONVEYED LANDS - Lands once granted but later forfeited and returned to Federal ownership by reconveyance. See COOS BAY WAGON ROAD LANDS.

RECORD - 1) The approved field notes and plat of a survey. 2) A value of area, bearing or distance from the approved field notes. 3) The act of recording a document as in a county. 4) All of the documents pertaining to title and boundaries including status, group files, county surveyor information as well as field notes and plats, when used as "to search the record."

RECREATIONAL ENTRY - A cash entry for public lands by a State, county, municipality, or other local governmental agency, or by a nonprofit organization, which are to be used for recreational purposes.

RECREATIONAL WITHDRAWAL - A reservation of public lands which have been designated as chiefly valuable for recreational purposes and as suitable for State exchange, recreation entry, or recreational lease pursuant to the act of June 14, 1926 (44 Stat. 741, 43 U.S.C. sec. 869).

RECTANGULAR COORDINATES - See PLANE COORDINATES and COORDINATE SYSTEM.

RECTANGULAR LIMITS - The amount by which a section, or its aliquot parts, may vary from the ideal section and still be considered regular. The rectangular limits are: a) For alignment, the section's boundaries must not exceed 21" from cardinal in any part, nor may the opposite (regular) boundaries of a section vary more than 21". b) For measurement, the distance between regular corners must be within 25 links in 40 chains.

RECTANGULAR SYSTEM OF SURVEYS - A system inaugurated by the Continental Congress on May 20, 1785, for the survey of the public lands of the United States. Its distinguishing characteristic is that in the main, and in all cases where practicable, its units are in rectangular form.

RED BOOK, THE - Slang for Standard Field Tables and Trigonometric Formulas, a supplement to the Manual of Surveying Instructions which was first published by the General Land Office in 1910; the eighth edition was published in 1956. The tables and data are designed for use by Cadastral Surveyors in the field and office.

RED RIVER CASE - When oil was discovered in the Red River Valley between Oklahoma and Texas, land prices soared. The location of the Oklahoma-Texas boundary line, once a part of the boundary between the United States and the Spanish holdings in the Southwest, became a matter of great importance. Any rights to the bed or the banks of the river were dependent upon the wording of the treaty of 1819. In 1919 Oklahoma entered in suit against Texas and the United States intervened as a protection of the rights of Iowa and Comanche Indians. The suits involved amounts of more than \$100 million. The U.S. Supreme Court proceedings fill 5,510 printed pages in nine volumes and the case required more than five years to settle. As a result of this landmark case, a new and unprecedented principle of law for the establishment of river boundaries came into being. (260 U.S.606, 261 U.S. 340, 265 U.S. 493). See **GRADIENT BOUNDARY**.

RED RIVER OIL LANDS - Public lands, containing oil and gas, which are located in the south half of the Red River, Oklahoma, from the 98th Meridian to the North Fork.

REEF (T. R. No.4) - A chain or range of rock or coral, elevated above the surrounding bottom of the sea, generally submerged and dangerous to surface navigation. A barrier reef roughly parallels the land but is some distance offshore, with deeper water intervening.

REFERENCED - Bearings and distances from a monument to described or identified points to be used for future corner point determination are said to be "referenced."

REFERENCE MONUMENT - "A reference monument is an accessory and is employed in situations where the site of a corner is such that a regular permanent monument cannot be established or where the monument would be liable to destruction, and bearing trees or a nearby bearing object are not available." (BLM 1973, paragraph 4-16.)

REGIMEN - The condition of a stream and its channel with respect to stability. A river or canal is "in regimen" if its channel has reached a stable form as a result of its flow characteristics.

REGIONS (BLM) - From 1946 until the mid 1950's, the direction of the public land surveys was conducted through regional offices of the Bureau of Land Management. The original regions were:

1. Washington, Oregon & Idaho (Headquarters, Portland, Oregon)
 2. California & Nevada (Headquarters, San Francisco, California)
 3. Montana, Wyoming, North Dakota, South Dakota, Nebraska, Kansas, Iowa & Missouri (Headquarters, Billings, Montana)
 4. Utah & Colorado (Headquarters, Salt Lake City, Utah)
 5. Arizona, New Mexico, Texas, Oklahoma, Arkansas & Louisiana (Headquarters, Albuquerque, New Mexico)
 6. The remaining states (Headquarters, Washington, D.C.)
 7. Alaska (Headquarters, Anchorage, Alaska)
- In 1950, the Bureau of Land Management prepared a wall chart showing that Region 6 had been increased to include Iowa & Missouri (from Region 3) and Arkansas & Louisiana (from Region 5). Alaska was a territory during the period in which BLM regions existed. See **AREAS (BLM)**.

REGISTER - An official in the General Land Office who was in charge of a land office subordinate to that agency. The reference to "register" was changed to "officer designated by the Secretary of the Interior" under the 1946 reorganization plan which created the Bureau of Land Management. See **MANAGER** and **REGISTERS**.

REGISTERING (Deeds) - The main object of the registration or recording of deeds is to give constructive notice of such conveyance to purchasers and creditors. A deed may be valid between the grantor and grantee but will fail to give constructive notice to others if not so registered or recorded.

REGRESS - The right to return to land. See **EGRESS** and **INGRESS**.

REGULAR CORNER - Corners which are established or indicated by the survey according to the normal plan of the rectangular system.

REGULAR ORDER - The prescribed procedure and method of establishing the rectangular system of surveys.

REGULAR SECTION - A section whose boundaries, as returned on the original survey, are within 21" of cardinal and within 25 links from each 40 chains in measurement. See **REGULAR SECTION SUBDIVISION** and **REGULAR SUBDIVISIONS OF A SECTION**.

REGULAR SECTION SUBDIVISION - The plan whereby a section is divided into the maximum number of aliquot parts. See **ALIQUOT PARTS**, **SUBDIVISION-OF-SECTION SURVEY** and **REGULAR SECTION**.

REGULAR SUBDIVISIONS OF A SECTION - The aliquot parts. See **ALIQUOT PARTS**.

REGULAR TOWNSHIP - A township which is surveyed with four complete boundaries every part of which is within allowable limits and is subdivided into 36 sections according to the regular method of subdivision.

REGULATION IRON POST - See **IRON POST**.

REHABILITATION - The restoration of a corner monument or its accessories to original conditions but not the addition of new accessories or any altering of the record. See **REMONUMENTATION**.

REIMBURSABLE SURVEY - A survey or resurvey authorized by law and made with BLM funds which according to the terms of written agreements.

RELEASED RAILROAD CLAIMS - The lands any potential claim to which was relinquished by railroads pursuant to the Transportation Act of 1940, viz., all railroad grant lands within the primary limits of the unadjusted railroad grants for which a patent or its equivalent had not been issued and all public lands within the indemnity limits of such grants which might have been available for selection by the railroads in satisfaction of their grants. The railroads did not relinquish rights to lands for which they had received patents (or their equivalent) or which they had sold to bona fide purchasers prior to September 18, 1940.

RELICTION - The gradual and imperceptible recession of the water resulting in an uncovering of land once submerged. Also known as dereliction. See **ACCRETION**.

RELICTION, ARTIFICIAL - A recession of the waters of a stream or lake uncovering riparian land where the recession was caused or induced by man's activities.

RELOCATION - The legal appropriation of a claim previously staked and held by either the re-locator or by another. The term implies that there was a former mining location which once had legal significance but has become open to forfeiture by abandonment, laches or the like. The burden of proof is on the re-locator. See **CLAIM JUMPING**.

RE-MEANDER - To establish new meanders along a riparian boundary replacing previous meanders.

REMEASUREMENT - A term applied to a survey made for the purpose of verifying or determining distances as opposed to a retracement, which is done to verify or determine both bearings and distances. It also differs from a resurvey, which is the rerunning and remarking of lines represented in the field notes and on the plat of a previous official survey. See **RESURVEY** and **RETRACEMENT**.

REMONUMENTATION - The construction of a corner monument (iron post, rock cap or concrete monument) at the position of an original monument as determined from proper measurement from its original accessories. New accessories may be added if required. See **REHABILITATION** and **PERPETUATION OF CORNERS**.

REMONUMENTATION PROGRAM - A cooperative effort to remonument survey corners which are in danger of becoming lost. This program is restricted to National Forest Lands and certain, designated, BLM Districts. Many State and local agencies have similar programs in their areas of authority.

REMOTE UPLAND OWNER - One whose land is immediately upland from that owned by a riparian owner. See **RIPARIAN OWNER**.

REPRESENTATIVE FRACTION - A fraction expressing scale in which the numerator is unity and the denominator is the number that the unit distance must be multiplied by in order to obtain its distance on the ground in the same units. For example, 1/12,000. Also seen as 1:12,000 and 1-12,000.

RESERVATION - A withdrawal, usually of a permanent nature also, any Federal lands which have been dedicated to a specified public purpose. See **MINERAL RESERVATION**.

RESERVED LAND - Federal lands which are dedicated or set aside for a specific public purpose or program, and which are, therefore, generally not subject to disposition under the operation of all of the public land laws.

RESERVOIR-SITE RESERVE - A reservation of public lands which have potential value as a site for a water storage reservoir.

RESIDUAL ERROR - 1) The total error of closure of a traverse. 2) In mathematics, the difference between an observed value of a series and its corresponding adjusted value. 3) Any remaining error after all adjustments are made.

RES JUDICATA - A matter settled by judgment. The rule of "res judicata" is that a matter once judicially decided is finally decided. The plea of "res judicata" is an "estoppel" against the losing party from again litigating matters involved in previous action, but does not have that effect in matters which occurred later and which were not at issue in the prior action. See **ESTOPPEL** and **STARE DECISIS**.

RESOURCE AREA (BLM) - The primary subdivision of a BLM District. It is composed of at least two (typically five to eight) planning units and intermingled and adjoining lands such as National Parks, National Forests, Indian Reservations, Military Reservations and private lands. It is under the administration of an Area Manager. **RESPONDENT**-See **APPELLEE**.

RESTORATION - 1) The purpose of a resurvey; the recovery of one or more lines or corner positions, or both, of a prior approved survey; or the replacement of one or more lost corners or obliterated monuments by approved methods, including the substantial renewal of one or more monuments, as required for the purpose of a survey. 2) A revocation of a withdrawal which also effects the opening of the public lands in the withdrawal. Also, an action which returns ceded Indian lands to tribal ownership. See **RESURVEY**, **DEPENDENT RESURVEY** and **INDEPENDENT RESURVEY**.

RESTORATION OF MEANDERS - The reestablishment of original meanders. See **RE-MEANDER**.

RESTRICTED DEED, ALASKA - A deed which is issued to an Alaskan Indian or Eskimo for land claimed by him in an Alaskan trustee town site and which contains a proviso that the land is inalienable except with the approval of the Secretary of the Interior.

RESURVEY - A term applied to the reestablishment or restoration of land boundaries and subdivisions by the rerunning and remarking of the lines that were represented in the field note record and on the plat of the previous official survey. This includes, as in the original survey, a field note record of the retracement data, observations, measurements and monuments descriptive of the work performed, and a plat that represents such resurvey, all subject to the approval of the directing authority. The above definition is intended or implied unless modified as in an Independent Resurvey or in some other appropriate manner. The adjective "dependent" applied to the term "resurvey" is for emphasis, and specifically to suggest the recovery and restoration of the prior official survey. See **DEPENDENT RESURVEY**, **INDEPENDENT RESURVEY**, **RETRACEMENT**, **RESTORATION**, **REMEASUREMENT** and **RESURVEY***.

RETRACEMENT SURVEY - A survey made to ascertain the direction and length of lines and to identify monuments and other marks of an established prior

survey.... Recovered corners are rehabilitated but lost corners are not restored and lines through timber are not reblazed (BLM, 1973, paragraph 6-7). See RESURVEY and REMEASUREMENT.

RETURNED - Areas and/or boundaries of the public lands which are described in the approved field notes and appear on the accepted plat of an official survey are said to be "returned."

RETURNS - Official reports. In cadastral survey parlance, the "returns" are the field notes, report and approved plat of a survey. See FIELD RETURNS and FINAL RETURNS.

REVERSION CLAUSE - A clause in an order of withdrawal providing that the lands shall revert to their former status after they have served the purpose for which they are withdrawn; also, a clause in a patent providing that title to the lands shall revert to the United States upon failure of the patentee to use the lands for the purposes stated in the patent.

REVESTED LANDS - Lands once granted and later forfeited and returned to Federal ownership by Congressional revestment of title. See O & C LANDS.

REVISED STATUTES - A body of statutes which have been reviewed, re-examined, rearranged or otherwise improved, and have been collected, arranged in order and re-enacted as a whole. In 1873, all of the general and permanent laws of the United States then in force were arranged by subject under 74 headings and enacted into law by Congress. This compilation was corrected and superseded by another codification of the laws in 1878. The 1878 codification is known as the Revised Statutes. The sections of the Revised Statutes are numbered consecutively. When cited, the section number should follow the abbreviation K.S. Thus, R.S.2478 is a citation to section 2478 of the Revised Statutes. A citation to the Revised Statutes is always understood to refer to the codification of 1878. See UNITED STATES STATUTES AT LARGE, UNITED STATES CODE and CODE OF FEDERAL REGULATIONS.

REVOCATION - Generally, an action which cancels a previous official act; specifically, an action which cancels a withdrawal.

RIDGE TOP - The highest part of a range of hills or mountains; an elongated crest or a linear series of peaks or crests. The highest elevations of a divide or the top of a ridge are often used for boundaries. See DIVIDE, HYDROGRAPHIC DIVIDE and CONTINENTAL DIVIDE.

RIGHT BANK (River) - The bank on the right-hand side of a stream or river as one faces downstream.

RIGHT LINE - An obsolete term for "True Line" or for a straight line between corners. The term is found in Manuals of Surveying Instruction as recently as 1894.

RIGHT OF WAY - The legal right to cross the lands of another. Also used to indicate the strip of land for a road, railroad or power line. In BLM, a permit or an easement which authorizes the use of public lands for certain specified purposes, commonly for pipe lines, roads, telephone lines or power lines. Also, the lands covered by such an easement or permit.

RIPARIAN - From the Latin "ripa" meaning river bank.

RIPARIAN BOUNDARIES - Water boundaries, or boundaries formed by a river, lake or the sea. The general rule is that riparian boundaries shift with changes due to accretion or erosion but retain their original location if brought about by avulsion or by artificial causes. See ACCRETION, AVULSION, RELICTION, EROSION, RIVER BED and LITTORAL.

RIPARIAN LANDS - In strict interpretation, lands bordering on a river. The term "riparian" is also used as relating to the shore of the sea or other tidal water, or of a lake or other considerable body of water not having the character of a watercourse.

RIPARIAN LAW - The branch of the law which deals with the rights in land

bordering on a river, lake or sea.

RIPARIAN OWNER - One who owns land having a boundary defined by a water course. Usage has broadened the term to include land along the sea or other tidal water, or along the shore of a lake or other considerable body of water. Strictly speaking, the correct term for lands bordering the sea, or other tidal water, is "littoral." See LITTORAL.

RIPARIAN RIGHTS - The rights of an owner of land bordering on a river, lake, bayou, or sea which relate to the water fit's use), ownership of the shore, right of ingress and egress, accretions, etc.

RIPARIAN RIGHTS ENTRY - An owner of contiguous land may be permitted to make such an entry of public lands when, due to erroneous meandering of a river, lake, or other body of water, public lands are shown on the original survey plat as water-covered areas.

ROD - One rod equals 16.5 feet or 25 links. Also termed "perch" or "pole" in older surveys.

ROOD - A square measure equal to 1/4 acre or 40 square rods. The term rood was sometimes used also for a linear measure varying locally from 5 1/2 yards to 8 yards.

RULE OF APPROXIMATION - A purely administrative expedient intended to equitably decide whether an entryman could obtain patent to more than the area provided by the Preemption and Homestead laws, still maintaining the contiguity of tract entered. Where the excess is less than the deficiency would be if the smallest legal subdivision is excluded from the entry then it is allowed to stand. (See 8 LD 205). Thus, if an entryman selects surveyed lands in excess of the statutory amount, say 175 acres, the Rule would allow him to pay for and receive the excess fifteen acres under certain conditions. The principle condition is that the excess cannot exceed the deficiency which would occur if the smallest legal subdivision were disallowed. The Rule would not be applied if the entryman had made substantial improvements to the tract disallowed and the differences were small (27 LD 78). The final selection was required to be one continuous tract after application of the Rule. If, in the sample, the selection included aliquot parts containing 40, 40.50, 65 and 29.50 acre lots totalling 175 acres, the 29.50 acre lot would be disallowed because $40 + 40.50 + 65 = 145.50$ which is deficient by only 14.5 acres whereas the excess was 15 acres. The Rule does not apply to the mining laws except placer claims filed by legal subdivisions of 10 acres, (34 ID 9). It does not apply to claims in unsurveyed areas, (28 ID 149). See 43 CFR 2731.6-1 concerning acreage limitations and the application of the rule of approximation in the matter of small tracts. See DE MINIMIS NON CURAT LEX.

RULE OF THALWEG - In river boundaries, the rule which holds that where a navigable river separates two nations, the middle of the main channel is the boundary between them, as distinguished from the geographic middle of the river, per Shalowitz. The rule of thalweg has also been applied to other boundaries where the boundary is described as being the "middle (or center) of the main channel" of a navigable river. See THALWEG, MEDIUM FILUM ACQUAE, GRADIENT BOUNDARY and MEDIAL LINE.

RULE OF TIDEMARK - A baseline for determination of coastal boundaries which follows the sinuosities of the low water mark except where true bays are encountered.

RULES OF PRACTICE - Certain orders made by the courts for the purpose of regulating the proceedings before them.

RUSSIAN MEASURES - 1 archine = 28 inches = 0.71120 meters = 16 verskops. 1 sagene = 3 archines. 500 sagenes = 1 verst. 1 dessiatine = 2,400 sq. sagenes = 2.6997 acres.

S

SALT LAKE MERIDIAN - The principal meridian governing surveys in most of Utah; it was adopted in 1855.

SALT MARSH - An area of low lying, wet ground containing a high proportion of salt or alkali; generally in arid regions. See **COASTAL SALT MARSH** and **ALLALI FLAT**.

SCALE FACTOR - In the State Plane Coordinate systems scale factors are applied to geodetic lengths to obtain grid lengths.

SCHOOL LAND DEFICIENCY OR LOSS - Land included in a State school-land grant which the State did not receive, because it was fractional, or claimed prior to admission, or reserved for some other purpose, is termed a loss or deficiency from the area granted. Under such circumstances, a State is entitled to a lieu selection. See **SCHOOL LAND INDEMNITY SELECTION**.

SCHOOL-LAND INDEMNITY SELECTION - A lieu selection made by a State to compensate for School Lands which it did not secure.

SCHOOL LAND PATENT - A patent which is issued to a State to give it additional evidence of title to a school section since title to school sections ordinarily passes to a State merely upon filing of the accepted survey of the lands. See **GRANT IN PLACE** and **IN PRAESENTI**.

SCHOOL LANDS - Sometimes referred to as "school sections" they are the lands included in a grant in place, or a grant in praesenti, to a State in support of common schools. Under the Ordinance of May 20, 1785, section 16 (called Lot 16 in the Ordinance) in each township was set aside for the maintenance of public schools. In 1850 this was changed to sections 16 and 36. In Arizona, New Mexico and Utah, sections 2, 16, 32 and 36 were granted.

SCREE SLOPE - A steep slope formed of rocky material with a marked tendency to creep or slide. See **TALUS**.

SCRIBE - A hand tool used by surveyors to inscribe the prescribed markings on bearing trees.

SCRIP - A certificate which allows the owner to make a selection of a specified number of acres out of available public lands.

SEAL - In law, a particular sign, made to attest in the most formal manner, the execution of a document or instrument.

SECANT - 1) A line that cuts a geometric curve or surface at two or more points. 2) A trigonometric function of an angle. See **SECANT METHOD** and **SECANT CONE**.

SECANT METHOD - A method for laying off a parallel of latitude in Public Lands surveying. **SECOND FORM RECLAMATION WITHDRAWAL**-A reclamation withdrawal which embraces public lands that are capable of being irrigated by a reclamation project.

SECOND PRINCIPAL MERIDIAN - The principal meridian which governs surveys in most of Indiana and in part of Illinois. Adopted in 1805, it is abbreviated 2nd Principal Meridian.

SECTION - A PLSS section is a nominally one mile by one mile area of land bounded by section lines running east-west and north-south. A fractional section may be bounded by an irregular survey line, a grant boundary, an Indian reservation or other line which causes the configuration of the section to deviate significantly from the nominal dimensions. (BLM 1973, paragraphs 3-17 through 3-46.) See **REGULAR SECTION**, **FRACTIONAL SECTION** and **IRREGULAR SECTION**.

SECTIONAL CORRECTION LINE - A latitudinal section line run to rectify a defective latitudinal governing boundary. It is run on cardinal bearing to intersect the opposite controlling boundary where a closing corner is

established. See STANDARD PARALLEL, AUXILIARY STANDARD PARALLEL and GOVERNING SECTION LINE.

SECTIONAL GUIDE MERIDIAN - A meridional section line run to rectify a defective meridional governing boundary. It is run on cardinal bearing to intersect the opposite controlling boundary where a closing corner is established. See GUIDE MERIDIAN, AUXILIARY GUIDE MERIDIAN and GOVERNING SECTION LINE.

SECTION CORNER - A corner at the extremity of a section boundary.

SECTION, HALF - Any two quarter sections within a section which have a common boundary; usually identified as the north half, south half, east half, or west half of a particular section.

SECTION, QUARTER - One of the aliquot parts of a section. Nominally it is a quadrangle measuring approximately 1/2 mile on each side and containing approximately 160 acres.

SECTION, QUARTER-QUARTER - One of the aliquot parts of a quarter section. Normally it is a quadrangle measuring approximately 1/4 mile on each side and containing approximately 40 acres.

SEGREGATION SURVEY - defined by running survey lines on the ground which separate appropriated lands from public lands. See MINERAL SEGREGATION SURVEY.

SELECTION - In general, an application to acquire title to public lands which is submitted by an applicant who acquired the right to apply for such lands by receipt of a grant, by surrender of his own lands in an exchange, by relinquishment of his rights to other lands (lieu selection), by surrender of scrip or by similar means.

SEMITANGENT - The distance from the point of curvature or point of tangency to the point of intersection of a highway curve.

SENIOR CORNER - A point established and monumented by an approved prior survey.

SENIOR LINE - Survey lines created at different times have different standings. The "senior" line would be the line which was surveyed and approved first. See SENIOR RIGHTS.

SENIOR RIGHTS - The rights which take precedence. The first patent issued usually takes precedence in a situation where a later survey is in conflict with an earlier survey. The first patent issued usually has the superior (senior) right or title regardless of the dates of the surveys.

SENIOR SURVEY - The oldest of two or more surveys which fixed the position of the line and is controlling unless officially superseded by a subsequent survey.

SERIAL REGISTERS - Serial registers were instituted in 1908 as a digest of land case records. BLM maintains these individual chronological records of each public land transaction. Each transaction (case) appears as a page or pages in a serial register. Each one is identified by the serial number assigned to it. A running record of each case, its inception and any actions on it, is kept in book form in the land office of each public domain land state. Serial register pages are now microfilmed for ease in retrieval of information as well as to conserve space. As cases are closed the files for them are sent to Federal records centers of the General Services Administration. See CONTROL DOCUMENT INDEX.

SETTLEMENT CLAIM - A claim to a right to make a homestead entry. Such claims are based upon actual settlement of the public lands involved. They can no longer be initiated except in Alaska.

SEVEN RANGES, THE - The first cadastral survey of the public lands of the United States began in July 1786, in the area immediately south of the

"Geographer's Line," in southeastern Ohio. It is called "The Seven Ranges" because plans called for the inclusion of seven ranges of townships in the first tract of land to be offered for sale. In the survey of the seven ranges, sections are numbered from south to north in each range, with number 1 in the southeast corner of the township and number 36 in the northwest corner. See GEOGRAPHER'S LINE, THE; ORDINANCE OF MAY 20, 1785.

SEWARD MERIDIAN - The principal meridian governing surveys in southwestern Alaska; it was adopted in 1911.

SHAFT - In mining, an opening made at the surface and extending downward into the earth vertically. See DRIFT, TUNNEL and ADIT.

SHORE - The land which is covered and uncovered by the rise and fall of the normal tide. It is the strip of land between the mean high water and mean low water lines. In its strictest use, the term applies only to land along tidal waters. See TIDELANDS.

SHORELINE, OCEAN (T. R. No.4) - The intersection of a specified plane of water with the shore or beach (e.g., the high water shore line would be the intersection of the plane of mean high water with the shore or beach). The line delineating the shore line on U.S. Coast and Geodetic Survey nautical charts and surveys approximates the mean high water line. The terms "shoreline" and "coast line" are frequently used as being synonymous. When "shore line" is used the user should specify what is meant, e. g., mean high water shore line, mean low water shore line, etc. See BEACH, SHORE, COAST LINE, MEAN HIGH WATER, FORESHORE, BACKSHORE, etc.

SHORE LINE, RIVER - The shore line is the line which is washed by the water wherever it covers the bed of the river within its banks. It lies along the bank at the mean level attained by the waters of the river when they reach and wash the bank without overflowing it.

SHORE, OCEAN - "This is the most important of the four zones, and extends from the low water mark inshore to the base of the cliff (large or small, which usually marks the landward limit of effective wave action. It is the zone over which the line of contact between land and sea migrates," per Shalowitz. This definition of "shore" describes the same zone as that given by Johnson, and Technical Report No.4, for "Beach". The legal definition of "shore" as defined by the U.S. Supreme Court in the case of Borax Consolidated, Ltd. v. City of Los Angeles, 296 U.S.10, 22-23 (1935) is: (quote) By the civil law, the shore extends as far as the highest waves reach in winter. But by common law the shore "is confined to the flux and reflux of the sea at ordinary tides." It is the land "between ordinary high and low water mark, the land over which the daily tides ebb and flow. (end quote) By those definitions the civil law (at least in California) describes the "shore" or "beach" as defined by Shalowitz, whereas the common law describes the same zone which is also legally defined as the "tidelands". See BEACH, FORESHORE, BACKSHORE and TIDELANDS.

SHORE SPACE LIMITATION - The limitation of 160 rods or 80 rods of shore space along navigable waters pertaining to certain land entries in Alaska. For provisions of determining the "shore space," see 43 C.F.R. 2094.1.

SHORE-SPACE RESERVE, ALASKA - A reservation of public lands along navigable and certain other waters in Alaska, chiefly for harborage purposes.

SIC - Thus. Intentionally so written. Used after a word or passage to indicate that it is meant to be exactly as printed or to indicate that it reproduces an original even if in error as to spelling or usage.

SIDE LINE - Applied to a strip of land such as a lot or other tract, it defines the boundaries of that tract. Not applied to the ends of a strip. In mining law, the "side lines" of a claim, as platted or laid down on the ground, are those which mark its longer dimension where it follows the course of the vein. If the claim as a whole crosses the vein instead of following its course, the "side lines" are still the boundaries of the longer dimension, even though they cross the vein. See END LINE.

SIGHT TREE - Same as Line Tree, or on older surveys, Station Tree. See **LINE TREE**.

SINGLE PROPORTIONATE MEASUREMENT (also called "two-way" proportion) - A method of proportioning measurement in the restoration of a lost corner whose position is determined with reference to alinement in one direction. Examples of such corners are quarter-section corners on the line between two section corners, all corners on standard parallels, and all intermediate positions on any township boundary line. The ordinary field problem consists of distributing the excess or deficiency between two existent corners in such a way that the amount given to each interval shall bear the same proportion to the whole difference as the record length of the interval bears to the whole distance. After having applied the proportionate difference to the record length of each interval, the sum of the several parts will equal the new measurement of the whole distance. See **PROPORTIONATE MEASUREMENT** and **DOUBLE PROPORTIONATE MEASUREMENT**.

SITE - A parcel of ground set apart for a specific use. The word itself does not necessarily imply definite boundaries.

SIXTEENTH-SECTION CORNER - Also termed "quarter-quarter section corner." A corner at an extremity of a boundary of a quarter-quarter section; midpoint between or 20 chains from the controlling corners on the section or township boundaries. Written as 1/16 section corner.

SIXTH PRINCIPAL MERIDIAN - The last of the principal meridians to be named an ordinal number, it governs surveys in Kansas, Nebraska, most of Colorado and Wyoming and a small part of South Dakota. Adopted in 1855, it is abbreviated 6th Principal Meridian. See **ORDINAL NUMBER**.

SKEW MERCATOR - See **OBLIQUE MERCATOR**.

SLOPE CHAINED - In some of the older surveys the chaining (measuring) was done on the slope but the distances measured were not always reduced to the horizontal equivalent and the slope distance was entered in the field note record. When this systematic error is detected during a retracement cadastral surveyors refer to the line as having been "sloped chained."

SLOPE CHAINING - The process of direct measurement of an inclined distance and vertical angle for reduction to its horizontal equivalent.

SMALLEST LEGAL SUBDIVISION - A quarter-quarter section or one lot. See **SUBDIVISION** and **MINOR SUBDIVISIONS**.

SMALL-HOLDING CLAIM ENTRY - An entry in connection with which the entryman and his predecessors-in-interest maintained continuous, adverse, actual, bona fide possession of public lands in the Southwest for at least 20 years prior to cadastral survey of the lands involved (acts of March 3, 1891, 26 Stat. 861; and June 15, 1922, 42 Stat. 650).

SMALL TRACT - A parcel of public lands of 5 acres or less which has been found chiefly valuable for sale or lease as a home, recreation, business, or community site under the act of June 1, 1938 (52 Stat. 609; 43 U.S.C. 682 a-c), as amended.

SMALL TRACT ACT - The Act of June 1, 1938 (52 Stat. 609; 43 U.S.C. 682 a-c), as amended, authorizes the Secretary of the Interior, under its terms and requirements, to lease or sell parcels (not to exceed 5 acres) of vacant, unreserved public lands, including such lands in Alaska, and public lands withdrawn under the "General Orders of Withdrawal," and those lands withdrawn or reserved for any purposes by the Secretary, but which may be classified by him as being chiefly valuable for sale or lease as a home, recreation, business, or community site under conditions as set forth in the Act. See **WITHDRAWAL** and **WITHDRAWAL, GENERAL ORDERS OF**.

SMALL-TRACT CLASSIFICATION - Classification of public lands as being chiefly valuable for sale or lease as small tracts; also, the public lands so classified.

SNOW BLAZE - In regions subject to heavy snowfall it is desirable survey practice to make a small additional blaze at a height of 6 or 8 feet above the ground on tree monuments and bearing trees to attract attention to them during the winter.

SOLAR ATTACHMENT - An auxiliary device mounted on a surveyor's instrument which mechanically solves the pole-zenith-sun spherical triangle. When the sun's declination, the latitude of the station and hour angle of the sun are correctly set off on the solar attachment, the instrument on which it is mounted may readily be oriented to the astronomic meridian. The first solar attachment was patented by William Burt and when mounted on a surveyor's compass it became a "Burt Solar Compass." Modern solar attachments are of the telescopic type.

SOLAR LINE - A line run along an astronomic bearing with a solar attachment. See **TACK LINE**.

SOLDIERS' ADDITIONAL HOMESTEAD ENTRY - A selection based on rights of Civil War veterans who had made a homestead entry for less than 160 acres to select enough public lands to make up the difference between the area of their homestead and 160 acres.

SPECIAL DEPOSIT SURVEY - A survey authorized by law, executed by BLM personnel but at no cost to the government, estimated costs to be deposited to BLM prior to survey. (43 U.S.C. 682b, 757-761, 887; 30 U.S.C. secs. 701 through 709; 43 C.F.R. 2215.3; BLM 2233.15AS and ASb; 2733.15A6a and d; 2215.31c.) One example: Mining Claim Occupancy Surveys.

SPECIAL INSTRUCTIONS - The written statement containing the detailed specifications for every cadastral survey assignment. The special instructions include the basic information necessary for accomplishing the field work and are an important part of the record relating to the survey. Special instructions are usually prepared by the officer in administrative charge of the work. They are usually written in the third person and, together with the Manual and supportive data, contain the necessary specifications and information for the execution of the survey. See **ASSIGNMENT INSTRUCTIONS**.

SPECIAL LAND USE PERMIT - A permit which authorizes the use of public lands for purposes not specifically authorized, or forbidden, by law.

SPECIAL MEANDER CORNER - A corner established at: 1) the intersection of a surveyed subdivision of section line and a meander line of a body of water or an island; 2) the intersection of a computed center line of a section and a meander line of an island over 50 acres in area which is located entirely within a section. (BLM 1973, paragraphs 121 and 122.)

SPECIAL PURPOSE MONUMENT - Special purpose monuments are set or designated when other designations are not available. These are decided case-by-case and application-by-application. Currently there are two special purpose monuments recognized by BLM and both are in Colorado (Williams, 1990).

SPECIAL SURVEY - A cadastral survey that involves unusual application of, or departure from, the rectangular system. They often carry out the provisions of a special legislative act and include such work as small tract surveys; townsite survey; island and omitted land surveys; homestead, homesite, trade and manufacturing site surveys; also the survey and resurvey of portions of sections. **SPECIAL SURVEYS. ALASKA-Metes and bounds surveys of areas settled upon or applied for under certain special land laws applicable to the State of Alaska. See METES-AND-BOUNDS SURVEY.**

SPHERICAL COORDINATES - Pairs of angular values such as latitude and longitude or right ascension and declination which locate points on a sphere in reference to fixed, or defined, great circles.

SPHEROID - In general, any figure differing but little from a sphere. In geodesy, a mathematical figure closely approaching the geoid in form and size. See **GEOID, GEODETIC SURVEY**.

SQUATTER'S RIGHTS - An asserted right to occupy public lands by virtue of

occupancy.

STANDARD - In cadastral survey slang, an ordinary steel pocket tape marked in chains or feet. In earlier surveyor usage, "standard" referred to a standard length against which the old-style survey chain was checked for accuracy.

STANDARD CORNER - A senior corner on a standard parallel or base line.

STANDARD FIELD TABLES AND TRIGONOMETRIC FORMULAS - A supplement to the Manual of Surveying Instructions first published by the General Land Office in 1910. The eighth edition was published in 1956. The tables and data are designed for use by cadastral surveyors in the field and office.

STANDARD PARALLEL - "Standard parallels, which in earlier years were also called correction lines, are extended east and west from the principal meridian, at intervals of 24 miles north and south of the base line, in a manner prescribed for the survey of the base line." (BLM 1973, paragraph 3-12.)

STANDARD PARALLEL, AUXILIARY - Where standard parallels have been placed at intervals exceeding 24 miles (under practice permissible prior to the issuance of the 1881 Manual of Surveying Instructions which specified 24 mile tracts), and conditions require additional standard lines, an intermediate correction line is established to which may be given a local name, such as "Fifth Auxiliary Standard Parallel North," or "Cedar Creek Correction Line." An auxiliary standard parallel is run, in all respects, like a regular standard parallel.

STAPLE CROP - A chief commodity or production of a place. A crop used, needed or enjoyed by many people and therefore produced regularly, or in large quantities, is a "staple crop." Under the meaning of the grants of swamp and overflowed lands to various states, a "staple crop" may include tame grass or hay as well as the cereals, cotton or tobacco normally grown in a specific region. See **SWAMP AND OVERFLOWED LANDS**.

STARE DECISIS - To abide by, or adhere to, decided cases. It is under the policy of "stare decisis" that courts stand by precedent and do not disturb a settled point. It is the doctrine which states that when the court has once laid down a principle of law as applicable to a certain state of facts, it will adhere to that principle and apply it to all future cases where facts are substantially the same. Also See **LES JUDICATA** and **OBITER DICTUM**.

STATE COORDINATE SYSTEMS - The plane rectangular coordinate systems established by the United States Coast and Geodetic Survey, one or more for each state in the United States, used for defining positions in terms of plane-rectangular (x and y) coordinates. Also called **State Plane Coordinate Systems**.

STATE DIRECTOR (BLM) - The principal Bureau official at the State level. He is directly accountable to the Director of the Bureau of Land Management. Formerly called **State Supervisor**.

STATE EXCHANGE - An exchange between the Federal Government and a State. See **EXCHANGE**, **PRIVATE EXCHANGE** and **TAYLOR ACT EXCHANGE**.

STATE GRANTS - Grants of public lands were made to States for schools and other public purposes. The most common State grants are: school, swamp, tide land, land under navigable waters, and lands for internal improvements. Generally, title to State grant lands could pass only after survey of the lands. Originally, mineral lands were excluded. Also excluded were lands taken by settlers, withdrawn for public purposes or otherwise disposed of by the Government. These grants by Congress were grants which may pass title to lands without further approval or documentation by a Federal agency. See **SCHOOL LAND PATENT**, **INDEMNITY LANDS** and **RAILROAD GRANT**.

STATEHOOD - The Thirteen Original States organized the Federal Union under the name of "The United States of America" by ratifying the Articles of Confederation, and later, the Constitution. They are: New Hampshire, New York, Maryland, Georgia, Delaware, Massachusetts, Pennsylvania, Virginia,

Connecticut, Rhode Island, New Jersey, North Carolina and South Carolina. The other states were admitted to the Union by acts of Congress (enabling acts), usually upon petition of the citizens residing in the territories in question, as follows:

Alabama-December 14,1819 (3 Stat.608)
 Alaska-January 3,1959 (72 Stat.339)
 Arizona-February 14, 1912 (36 Stat. 557; 37 Stat. 1728)
 Arkansas-June 15, 1836 (5 Stat. 50)
 California-September 9, 1850 (9 Stat.452)
 Colorado-August 1, 1876 (18 Stat.474; 19 Stat.665)
 Florida-March 3, 1845 (5 Stat. 742)
 Hawaii-August 21, 1959 (73 Stat.4)
 Idaho-July 3, 1890 (26 Stat. 215)
 Illinois-December 3, 1818 (3 Stat.536)
 Indiana-December 11, 1816 (3 Stat. 399)
 Iowa-December 28, 1846 (9 Stat. 117)
 Kansas-January 29, 1861 (12 Stat. 126)
 Kentucky-June 1, 1792 (1 Stat. 189)
 Louisiana-April 30, 1812 (2 Stat. 701)
 Maine-March 15, 1820 (3 Stat. L. 544)
 Michigan-January 26, 1837 (5 Stat. 144)
 Minnesota-May 11, 1858 (11 Stat. 285)
 Mississippi-December 10, 1817 (3 Stat. 472)
 Missouri-August 10, 1821 (3 Stat. 645, 3 Stat. Appendix II)
 Montana-November 8, 1889 (25 Stat. 676; 26 Stat. 1551)
 Nebraska-March 1,1867 (14 Stat.391,820)
 Nevada-October 13, 1864 (13 Stat.30,749)
 New Mexico-January 6, 1912 (36 Stat. 557; 37 Stat. 1723)
 North Dakota-November 2, 1889 (25 Stat. 676; 26 Stat. 1548)
 Oklahoma-November 16, 1907 (34 Stat. 267; 35 Stat.2160)
 Ohio-Feb. 19, 1903 (2 Stat.201)
 Oregon-February 14, 1859 (11 Stat. 383)
 South Dakota-November 2, 1889 (25 Stat. 676; 26 Stat. 1549)
 Tennessee-June 1, 1796 (1 Stat. L.491)
 Texas-December 25,1845 (9 Stat. L. 108)
 Utah-January 4,1896 (28 Stat. 107; 29 Stat.876)
 Vermont-March 4, 1791 (1 Stat. L. 191)
 Washington-November 11, 1889 (25 Stat. 676; 26 Stat. 1552)
 West Virginia-June 19,1863 (13 Stat. L.731)
 Wisconsin-May 29,1848 (9 Stat.233)
 Wyoming-July 10,1890 (26 Stat.222).

STATE PLANE COORDINATE SYSTEMS - The plane rectangular coordinate systems established by the U.S. Coast and Geodetic Survey, one for each State in the Union, used for defining positions of geodetic stations in terms of plane-rectangular (x and y) coordinates. The two principal systems in use in the United States are the Lambert Conformal Conic map projection and the Transverse Mercator map projection. See **OBLIQUE MERCATOR PROJECTION**.

STATE SELECTION - An application to acquire title submitted by a state. See **STATE SELECTION SURVEY**.

STATE SELECTION LANDS, ALASKA - The enabling act admitting Alaska as a State provides that, within 25 years after statehood, Alaska is granted and entitled to select 103,350,000 acres (161,484 square miles) of vacant and unappropriated public land.

STATE SELECTION SURVEY - The survey providing limited monumentation of the township boundaries of lands selected by the State of Alaska.

STATES EXEMPT FROM FEDERAL MINING LAW - States whose land never belonged to the United States, and states specifically exempted from the Federal mining laws, are not open to location under Federal laws. These states are Virginia, North Carolina, South Carolina, Pennsylvania, Rhode Island, New York, New Hampshire, New Jersey, Massachusetts, Maryland, Georgia, Delaware, Connecticut, Main, Vermont, Kentucky, Alabama, Kansas, Illinois, Indiana, Michigan, Minnesota, Missouri, Ohio, Oklahoma, Wisconsin, Texas and Hawaii. See **LANDS OPEN TO MINERAL LOCATION**.

STATE SUPERVISOR - Former title of the officer in charge of a State Office of the Bureau of Land Management. Now called "State Director."

STATUS DIAGRAM - A diagram prepared from a Master Title Plat and Historical Index. A status diagram showing the public domain lands usually accompanies the special instructions for each survey.

STATUS OF PUBLIC LANDS - The information with respect to any particular parcel or tract of public land; its legal description; whether surveyed or unsurveyed; the non-federal rights or privileges, if any; which attach to it or its resources; whether classified as mineral lands; withdrawals or special laws, if any, which apply to it; and any other pertinent information which may influence the operation of the public-land laws so far as its use or disposal is concerned.

STATUTES AT LARGE - See UNITED STATES STATUTES AT LARGE.

ST. HELENA MERIDIAN - The principal meridian governing surveys in the southeastern part of Louisiana it was adopted in 1819.

STICK - A measurement term used in some field notes and deeds in the early 1800's, a stick is 1/2 chain or 2 poles (rods). It is the point where, in the use under Tiffin's 1815 instructions of "a two poles chain of 50 links," a chain man called out "stick" to be replied with "stuck." See OUT, POLE, PERCH, RODD and TALLY.

STOCKRAISING HOMESTEAD ENTRY - An entry of public lands, classified as being chiefly valuable for grazing and the growing of forage crops, under the provisions of the Stockraising Homestead Act of December 29, 1916. The provisions for such homesteads were, by implication, repealed by the Taylor Grazing Act.

STONE BOUND - A substantial stone post set into the ground with its top end approximately flush with the ground surface. Used to mark accurately and permanently the important corners of a land survey.

STOPE - An underground excavation in which ore is mined, usually by working from below.

STRADDLE STAKES - In determining the point of intersection of two lines, stakes are usually lined in on both sides of the point of intersection. Since they straddle the point, surveyors call them "straddle stakes."

STRAIGHT BASE LINE - A system for placement of the line that divides the inland waters from the marginal sea in which straight lines connect salient points on outermost limits and fringe islands. See BASELINE.

STREET - Any public thoroughfare (street, avenue, boulevard, or park) or space more than 20 ft wide which has been dedicated or deeded to the public for public use.

STREET LINE - A lot line dividing a lot or other area from a street; or more specifically, the side or end boundary of a street, defined by the instrument creating that street as having a stated width.

STRIKE - In geology and mining, the direction of a line formed by the intersection of a stratum with a horizontal plane.

STRONG BEARING - A survey slang term for a bearing which departs markedly from cardinal. A bearing of 2 or more degrees from cardinal may be considered a "strong" bearing. "Heavy bearing" is used synonymously.

ST. STEPHENS MERIDIAN - The principal meridian governing surveys in southern Alabama and south eastern Mississippi; it was adopted in 1805.

SUBDIVISION - (verb) 1) Subdivision of a township into sections. 2) Subdivision of a section into half sections, quarter-sections, sixteenth-sections or sixty-fourth-sections, or into lots, according to the Manual of Surveying Instructions. 3) The process of surveying such subdivisions. 4) In

the private practice of land survey, subdivision is the division of an area into lots, streets, rights-of-way, easements and accessories, usually according to State law and local regulations. (noun) A particular aliquot part, lot, or parcel of land described according to the official plat of its cadastral survey. See SUBDIVISION, SMALLEST LEGAL, URBAN SUBDIVISION and MINOR SUBDIVISION.

SUBDIVISION-OF-SECTION SURVEY - A survey which subdivides a previously surveyed section into the required aliquot parts or lots, using methods which are legally prescribed. See REGULAR SECTION SUBDIVISION.

SUBDIVISION, SMALLEST LEGAL - For general purposes under the public-land laws, a quarter quarter section or one lot. Under certain of these laws and under special conditions, applicants, claimants, etc., can select subdivisions smaller than a quarter-quarter section or lot. See MINOR SUBDIVISIONS and ALIQUOT PARTS.

SUBJECT TO SURVEY - Open to public land survey. See LANDS SUBJECT TO SURVEY.

SUBMERGED LANDS ACT - Also called Public Law 31. The act passed during the 1st session of the 83rd Congress and signed into law May 22, 1953. Confirms and establishes the titles of the states to lands beneath navigable water within their boundaries and to the natural resources within such lands and water. The act also establishes jurisdiction and control of the United States over the natural resources of the seabed on the continental shelf seaward of state boundaries. See CONTINENTAL SHELF, OUTER CONTINENTAL SHELF, and OUTER CONTINENTAL SHELF LANDS ACT.

SUPPLEMENTAL MASTER TITLE PLAT - An extension of the Master Title Plat, it depicts a congested section, or sections, within a township, drawn to a scale larger than the master title plat in order to adequately show land status in the area. See MASTER TITLE PLAT and USE PLAT.

SUPPLEMENTAL PATENT - A patent issued to modify one previously issued, such as a patent issued without a mineral reservation clause, covering coal, to supersede in whole or in part a patent which had been issued with coal reserved to the United States. In the above described case, the patent would be referred to as a "supplemental non-coal patent."

SUPPLEMENTAL PLAT - A plat prepared entirely from office records designed to show a revised subdivision of one or more sections without change in the section boundaries and without other modification of the record. Supplemental plats are required where the plat fails to provide units suitable for administration or disposal, or where a modification of its showing is necessary. They are also required to show the segregation of alienated lands from public lands, where the former are included in irregular surveys of patented mineral or other private claims made subsequent to the plat of the subsisting survey, or where the segregation of the claims was overlooked at the time of its approval. In the past, Supplemental Plats were called "diagrams" or "MAPS." See PLAT, MASTER TITLE PLAT, USE PLAT and STATUS DIAGRAM.

SUPRA - Above. When used in text it refers to matter in a previous part of the publication. See INFRA and OP. CIT. SUPRA.

SUPREME COURT OF THE UNITED STATES - The highest court in the land. The court of last resort in the federal and state judiciaries. Its jurisdiction is essentially appellate, but it has irrevocable original jurisdiction in cases affecting ambassadors, public ministers and consuls or in cases in which a state is a party. The court is composed of a Chief Justice and eight Associate Justices. See UNITED STATES DISTRICT COURTS and UNITED STATES COURTS OF APPEALS.

SURFACE RIGHTS - All rights in the land excepting the oil, gas and mineral rights to underground deposits.

SURVEY - 1) The plat and the field-note record of the observations, measurements, and monuments descriptive of the work performed. Occasionally used as implying that the official plat is "The Survey." Commonly, any survey

but, specifically, an original survey. 2) The process of recording observations, making measurements, and marking the boundaries of tracts of lands. See RESURVEY.

SURVEYING INSTRUCTIONS - Various regions of the United States have been surveyed under amended or differing instructions from the passage of the first Land Ordinance to the present. The Ordinance of May 20, 1785, gave explicit cadastral survey instructions which were to be carried out under the personal supervision of the Geographer of the United States, Thomas Hutchins. His successor, Rufus Putnam, was given the title "Surveyor General of the North west Territory" under the terms of the Act of May 18, 1796. He wrote letters of instruction to deputy surveyors as did his successors, Jared Mansfield and Josiah Meigs. In 1815, Edward Tiffin, who succeeded Meigs as Surveyor General of Territories east of the Mississippi, issued the first signed and dated general instructions for the guidance of deputy surveyors, though they were partially based on an unsigned, undated manuscript prepared earlier by Mansfield. Other printed circulars followed. In 1851, a Manual of Instructions was issued to the Surveyor General of Oregon. After that came the Manual of 1855, the Manual of 1871 (a copy of the 1855 manual), the Manual of 1881, the Manual of 1890, the Manual of 1894 and the Manual of 1902. In 1919, a part of the Manual of 1930 was published, then the Manual of 1930 and the Manual of 1947. The Manual of Surveying Instructions for the Survey of the Public Lands of the United States, 1973, is the current manual of surveying instructions.

SURVEYING, LAND - The determination of boundaries and areas of tracts of land. Land boundaries are usually defined by ownership, commencing with the earliest owners through successive ownerships and partitions. Land surveying includes the reestablishment of original boundaries and the establishment of such new boundaries as may be required in the partition of the land. See CADASTRAL SURVEY.

SURVEYOR GENERAL - Prior to 1925, an officer in charge of the survey of the public lands. The Act of May 18, 1796, abolished the office of the Geographer of the United States and provided for the appointment of a Surveyor General. President George Washington appointed Rufus Putnam Surveyor General of the Northwest Territory under the terms of this act. See ACT OF MAY 18, 1796, GEOGRAPHER OF THE UNITED STATES, UNITED STATES SUPERVISOR OF SURVEYS and CHIEF, DIVISION OF CADASTRAL SURVEYS.

SURVEY, ORIGINAL - See ORIGINAL SURVEY.

SUSPENDED APPLICATION OR ENTRY - An application or entry upon which adverse action by the Bureau of Land Management has been deferred.

SUSPENDED SURVEY - Also called suspended plat. When question or doubt arises concerning an accepted survey, all actions related to the area covered may be held in abeyance until the matter is resolved. The survey may be corrected, reinstated or canceled, either in whole or in part, but no action based on the plat may be initiated or completed while the survey is suspended. See CANCELLATION.

SWAMP - 1) Low lying land saturated with moisture and overgrown with vegetation but not covered with water. 2) Land at elevations below the upland such as would be wet and unfit for agriculture without construction of artificial drainage. See MARSH, SALT MARSH and SWAMP AND OVERFLOWED LANDS.

SWAMP AND OVERFLOWED LANDS - Any quarter quarter section or lot the greater part of which was so swampy or subject to overflow during the planting, growing or harvesting season, in the majority of years at or near the date of the grant of such lands, as to be unfit for cultivation in any staple crop of the region in which it is located without the provisions of some artificial means of reclamation. In common usage "swamp" and "overflowed" lands are regarded as synonymous. See SWAMP-LAND GRANT, LOUISIANA SWAMP LAND ACT OF 1849, SWAMP LANDS ACT OF 1850, SWAMP LANDS ACT OF 1860, STAPLE CROP, TIDE LANDS, MARSH and SALT MARSH.

SWAMP-LAND GRANT - A State grant consisting of public lands deemed swampy and unfit for cultivation. The lands were granted to enable the various states receiving them to aid in their reclamation. See SWAMP AND OVERFLOWED LANDS,

LOUISIANA SWAMP LAND ACT OF 1849, SWAMP LANDS ACT OF 1850, SWAMP LANDS ACT OF 1860 and IN PRAESENTI. SWAMP LANDS ACT OF 1850-The Act of September 28, 1850 (9 Stat. 519), extended the Louisiana Swamp Land Act to the other public-land States then in the Union. See LOUISIANA SWAMP LAND ACT and SWAMP LANDS ACT OF 1860.

SWAMP LANDS ACT OF 1860 - This March 12, 1860 Act (12 Stat. 3) extended the Swamp Lands Act to the States of Minnesota and Oregon. The various swamp-land grants were carried over into R.S. sec. 2479 (43 U.S.C.A. sec. 982). For a notable exception to the swamp-land laws, see ARKANSAS COMPROMISE ACT. See LOUISIANA SWAMP LAND ACT OF 1849 and SWAMP LANDS ACT OF 1850.

T

TACK LINE - A straight line projected from point (tack) to point as opposed to a solar line run along an astronomic bearing with a solar attachment.

TALLAHASSEE MERIDIAN - The principal meridian governing surveys in Florida and in a small part of Alabama; it was adopted in 1824.

TALLY - 1) Five chains as measured with a two pole chain. 2) A method of keeping track of count.

TALLY PIN - A chaining pin.

TALUS - A slope. Especially a steep slope formed by an accumulation of rock debris. See CONTINENTAL TALUS, SCREE SLOPE.

THALWEG - See THALWEG and RULE OF THALWEG.

TANGENT - 1) A straight line that touches a given curve at only one point and does not intersect it. 2) In the public lands surveys, a straight line, tangent to a parallel of latitude, usually at a township corner. 3) That part of a traverse or alignment included between the point of tangency (P.T.) of one curve and the point of curvature (P.C.) of the next curve. 4) A trigonometric function of an angle.

TAYLOR ACT EXCHANGE - An exchange consummated under the provisions of section 8 of the Taylor Grazing Act. See EXCHANGE, PRIVATE EXCHANGE and STATE EXCHANGE.

TAYLOR GRAZING ACT - Act of June 28, 1934 (48 Stat. 1269; 43 U.S.C. sec. 315), as amended. See GRAZING SERVICE.

TENEMENT - In its original, proper and legal sense, "tenement" signifies everything that may be held, if it is of a permanent nature, whether it is corporeal or incorporeal. Though often applied to houses and other buildings or to lands, it is also applicable to offices, rents, franchises and so forth. See CORPOREAL, INCORPOREAL and HEREDITAMENT.

TERRITORY (methods of acquisition) - The United States has acquired territory principally by the following three methods:

1. by treaty
2. by joint resolution of the two houses of Congress
3. by statute.

TERRITORY - In American law, a portion of the United States, not within the limits of any state, which has not yet been admitted as a state of the Union, but is organized, with a separate legislature, and with executive and judicial officers appointed by the president.

TERRITORY NORTHWEST OF THE OHIO RIVER - The Territory bounded on the west by the Mississippi River and a line running north from its source to the international boundary, on the north by the boundary line between the United States and the British possessions, on the east by the Pennsylvania and New York State lines, and on the south by the Ohio River. It was made up of claims of Virginia, Connecticut and Massachusetts, and comprised an area of approximately 278,000 square miles. From this territory the States of Ohio, Indiana, Illinois, Michigan and Wisconsin were formed. It also included that part of Minnesota which lies east of the Mississippi River and the northwest corner of Pennsylvania.

TESTIMONY - Evidence given by a competent witness, under oath or affirmation; as distinguished from evidence derived from writings and other sources. The words "testimony" and "evidence" are not synonymous. See EVIDENCE and WITNESS, EXPERT.

TEXAS ACCESSION - The Republic of Texas was admitted as a State in 1845, but retained title to all unoccupied lands. Thus, Texas was not a public land State. Part of this territory was, however, purchased by the United States in 1850, and is now included in the States of Kansas, Colorado, New Mexico,

Oklahoma and Wyoming. This purchase added approximately 75 million acres of public lands to the United States.

THALWEG - The "downway," meaning the course taken by boats going downstream in a river. The line following the lowest part of a valley, whether under water or not. The intricacy of detail in ordinary relief often makes difficult a practical location of a thalweg; in a survey of a political boundary line this difficulty may assume considerable weight. A thalweg may also be defined as the line down the center of the main channel of a stream or as the line of greatest slope, cutting all contours at right angles. See **THREAD OF THE STREAM** and **RULE OF THALWEG**.

THENCE - In surveying and in metes and bounds descriptions, the term designates that the course and distance given thereafter is a continuation from the course and distance given before.

THENCE DOWN THE RIVER - This phrase, as used in a surveyor's field notes, is construed to mean "with the meanders of the river."

THEODOLITE - A precision surveying instrument for measuring horizontal and vertical angles. The graduated circles are usually read by means of optical microscopes and are more precisely graduated than are the circles on a transit. See **TRANSIT**.

THEORETICAL CORNER - A USGS term which designated corners on the map for which no evidence was found on the ground and which were located by land line adjustment.

THIRD PRINCIPAL MERIDIAN - The principal meridian, adopted in 1805, which governs surveys in a large part of Illinois. It is abbreviated 3rd Prin. Mer.

THIRTEEN ORIGINAL STATES - The Thirteen Original Colonies, upon revolt from the British Crown, became sovereign, independent states. They are: New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina and Georgia.

THREAD OF THE STREAM - Though the courts do not always agree on definitions, the great weight of authority is to the effect that the thread of the stream is the center of the main channel thereof. If there are two prominent channels, the thread of the stream is the center of the channel used for navigation. See **THALWEG** and **MEDIUM FILUM ACQUAE**.

THROW - In mining, the vertical distance between the parts of a vein which have been separated by a fault, measured at right angles to the strike of the fault. A horizontal fault can have no throw, and a vertical fault can have no heave. See **HEAVE**.

TIDAL CURRENT - A horizontal movement of the water caused by gravitational interactions between the sun, moon and earth. See **TIDE**.

TIDAL DATUM - A reference for leveling defined by tidal phase observation and measurements. Mean sea level is usually used as the datum for elevations. Mean high water, mean low water and similar terms are tidal datums.

TIDE - The periodic rising and falling of the water that results from the gravitational attraction of the moon and sun acting upon the rotating earth. See **TIDAL CURRENT**.

TIDE, EBB - The movement of the tidal current away from the shore or down a tidal stream. The correct technical term is "Ebb Current."

TIDE, FLOOD - The movement of a tidal current toward the shore or up a tidal stream. The correct technical term is "Flood Current."

TIDELANDS - Coastal areas situated above mean low tide and below mean high tide, particularly the areas alternately covered and uncovered by the daily tides. As part of the bed of navigable waters, such lands belong to the states by right of sovereignty. Tidelands, including coastal "salt marshes"

are not subject to survey. In contrast, coastal marshes not covered by daily tides are "swamp and overflowed lands" within the meaning of the various "Swamp Lands Acts," and are subject to survey. See NAVIGABLE WATERS, LOUISIANA SWAMP LANDS ACT OF 1849, SWAMP LANDS ACT OF 1850, SWAMP LANDS ACT OF 1860 AND SWAMP AND OVERFLOWED LANDS.

TIDE, NEAP - See NEAP TIDES.

TIE - A survey connection to an existing station or corner of the Public Lands from a point whose position is desired to be referenced.

TIE IN-1) - To make a connection to a previously determined point. 2) To connect corner accessories, topographic and cultural features to the survey.

TIE POINT - The point to which a survey connection is made.

TIER (United States public land surveys) - Any series of contiguous townships situated east and west of each other; also, sections similarly situated within a township.

TIMBER AND STONE ACT - An 1878 act which authorized the negotiated sale of public lands especially valuable for either timber or stone, and otherwise unfit for cultivation. The Timber and Stone Act was repealed in 1955.

TIMBER AND STONE ENTRY - An entry of public lands valuable for timber and stone made under laws now repealed. See TIMBER AND STONE ACT.

TIMBER CULTURE ACT - In 1873 Congress passed an act to encourage the growth of timber on the western prairies. It provided for the entry of public lands if the entryman planted and cultivated trees on a specified part of the land. The law was repealed in 1891.

TITLE - In real property law, title is a means whereby the owner of lands has the just possession of his property.

TITLE 43 - Refers to Title 43 (Public Lands) of the United States Code (U.S.C.), or to Title 43 (Public Lands: Interior) of the Code of Federal Regulations (C.F.R.).

TOPOGRAPHY - Collective or individual features both natural and cultural, improvements, significant changes in character of land and relief which are tied to a point on the survey line or are intersected by it. See TOPOGRAPHY*.

TORRENS REGISTRATION SYSTEM - The basic principle of the system is the registration of the title to the land, instead of recording the evidence of such title.

TOWN LOT - A subdivision of a townsite or of an urban subdivision.

TOWN LOT ENTRY - A cash entry of a town lot within a townsite. See TOWNSITE.

TOWNSHIP - The unit of survey of the public lands; normally a quadrangle approximately 6 miles on a side with boundaries conforming to meridians and parallels within established limits, containing thirty-six sections, some of which are designed to correct for the convergence of meridians or range lines. See FRACTIONAL TOWNSHIP.

TOWNSHIP CORNER - A corner at the extremity of a PLSS township boundary. Normally a PLSS township has four township corners. This does not include section, quarter-section or section subdivision corners which are on a PLSS township boundary. See CLOSING TOWNSHIP CORNER.

TOWNSHIP LINES - The township boundaries that run north and south are termed "range lines;" with few exceptions the range lines are run on cardinal and have been intended to be on cardinal. The boundaries running east and west are termed "township lines." By law, they were intended to be on true parallels of latitude. See PLAT.

TOWNSITE - An area of public lands which has been segregated for disposal as

an urban development, often subdivided into blocks, which are further subdivided into town lots. The permanent monuments placed at each turning point of town-site boundary lines are marked not only with the usual subdivisional information, but also with the capital-letter initials of the town-site name followed by TS.

TOWNSITE ENTRY - A cash entry of a townsite.

TOWNSITE RESERVE - A reservation of public lands which have potential value as a townsite. See MUNICIPAL RESERVES.

TOWNSITE SURVEY - A survey of street and lot boundaries executed to segregate from the public lands an area qualifying under the townsite laws.

TRACT - Generally, a metes and bounds survey of an area at large within a township. In modern public land surveys the term is used specifically to mean a parcel of land that lies in more than one section or that cannot be identified completely as a part of a particular section. Tract numbers begin with the next higher number of the numerical designation within a township, for example: if there is an old numbers are sequential and no number is repeated within a township, for example; if there is an old Mineral Lot No.37, the tract would be Tract No.38. If a tract falls across a township line it is given a separate number in each township. See LOT.

TRACT BOOK - Starting about 1800, tract books designed primarily for the maintenance of permanent records of all transactions involving public domain lands were created and maintained in local land offices. Tract books were the companion records to the land office "status plot.," Prior to the beginning of the records improvement program in 1955, these records constituted the records required in accordance with 43 C.F.R. 1813.1-1. Over the years, many of the tract books became worn and mutilated making status difficult to determine. To protect these books from further damage and to preserve the information they contain, these records are now microfilmed. As this is done, the tract books are transferred to the appropriate Federal records center as part of the National Archives. See LAND OFFICE STATUS PLAT, HISTORIC INDEX, MASTER TITLE PLAT and USE PLAT.

TRADE AND MANUFACTURING SITE (Alaska) - Section 10 of the Act of May 14, 1898, as amended August 23, 1958, authorizes, under its terms and provisions, the sale of not more than 80 acres of land in Alaska possessed and occupied in good faith as a trade and manufacturing site.

TRADE AND MANUFACTURING SITE ENTRY - A cash entry of 80 acres or less in Alaska which are used as a trade or manufacturing site.

TRANSIT - A repeating surveying instrument for measuring horizontal and vertical angles. The graduated circles are usually not graduated as precisely as are those on a theodolite. See THEODOLITE.

TRANSPORTATION ACT OF 1940 - Act of September 18, 1940 (54 Stat.954). See RELEASED RAIL ROAD CLAIMS.

TRANSVERSE MERCATOR MAP PROJECTION - A conformal map plotting system in which points on the ellipsoid are mathematically projected onto a cylinder whose axis is oriented 90° (transverse) to the axis of the ellipsoid. The cylinder surface may meet the ellipsoid at the map center or it may cut below the surface (secant) creating two parallels where the scale is exact. The secant form of this projection is the basis of State Plane Coordinate Systems where the zone extends north-south more than east-west.

TRAVERSE - In surveying, a sequence of lengths and directions of lines between points on the earth, obtained by field measurements and used to determine the positions of the points through use of trigonometric computations.

TREATY OF GHENT, 1814 - By the treaty of peace concluded at Ghent (Belgium) on December 24, 1814, it was agreed to provide for a final adjustment of the boundaries described in the Treaty of 1783 that had not yet been ascertained and determined, embracing certain islands in the Bay of Fundy and the whole of the boundary line from the source of the River St. Croix to the most

northwestern point of the Lake of the Woods.

TREATY OF GUADALUPE HILDAO - The peace treaty signed Feb.2,1848, at the close of the Mexican War, and proclaimed July 4, 1848. See MEXICAN CESSION.

TREATY WITH GREAT BRITAIN, 1782 - The original limits of the United States were first definitely described in the provisional treaty concluded with Great Britain on November 30, 1782.

TREATY WITH GREAT BRITAIN, 1783 - The definite treaty of peace with Great Britain concluded on September 3, 1783, defines the boundaries of the United States in terms similar to those of the provisional treaty. The northern boundary became at once a fruitful source of dissension between the two countries. From the time of the conclusion of peace almost to the present day (1954) the definite location of this line has been subject to a series of treaties, commissions, and surveys.

TREATY WITH SPAIN, 1795 - The southern boundary of the United States was described in definite terms by the treaties with Great Britain of 1782 and 1783, but its location was not accepted by Spain and was disputed by that country until settled by the treaty concluded on October 27, 1795.

TREATY WITH SPAIN, 1819 - The treaty of February 22, 1819, settled conflicting claims between the United States and Spain concerning East and West Florida. The third article of the treaty defines the boundary between the United States and the Spanish possessions in the Southwest. The western boundary of the United States south of the 42nd parallel, as fixed by this treaty, was confirmed by treaty with Mexico on January 12, 1828, since by that time Mexico had gained independence from Spain.

TRESPASS - An unlawful act causing injury to rights or property of another. As used in BLM, an unauthorized use of federal lands or resources.

TRIANGULATION STATION - A marked and/or described point whose position has been determined by triangulation. The usage has broadened to include any precise control station.

TRUE-1) - The correct value, as distinguished from an assumed value or approximate value. 2) An adjective applied to bearings indicating astronomic or geodetic values. See TRUE LINE.

TRUE LINE - A line of constant bearing (Rhumb Line) between two corners of a survey.

TRUSTEE DEED - A deed which is issued by the trustee in connection with the sale in Alaska of a town lot in a trustee town site.

TRUSTEE TOWN SITE. Alaska - An area of public land in Alaska which has been segregated for disposal as an urban development, the town lots which are sold by a trustee appointed by the Secretary of Interior.

TRUST PATENT - See PATENT, TRUST.

TRUST TERRITORY OF THE PACIFIC ISLANDS - Islands in the western Pacific; the Caroline, Marshall and Mariana (except Guam) Groups. Formerly under Japanese mandate, they were placed under the administration of the United States Department of the Interior through an agreement with the United Nations following World War II.

T-SHEET - A topographic map or chart prepared by the former Coast and Geodetic Survey, and now by the National Ocean Survey, including the manuscript copy. The topographic map is identified with a number, prefixed with the letter T, such as T5542. As now prepared they are prefixed "TP" (topographic-photogrammetric). The term "T-Sheet" is an inhouse expression to denote such maps and charts.

TUNNEL - In mining, a lateral or horizontal passage underground intended to reach the vein or mineral deposit, where a drift may begin. See DRIFT, SHAFT and ADIT.

TUNNEL LOCATIONS - Tunnel sites are acquired in accordance with local rules and customs, but may not exceed 3000 feet as imposed by Federal law. When a lode is discovered within a tunnel, the owner is called upon to make a surface location of the vein or lode as required by law. Discontinuing operations for 6 months constitutes abandonment of all right to the veins along the line of the tunnel.

TURNING POINT - In meandering, or in any irregular survey, "turning point" is synonymous with "angle point." In leveling, however, "turning point" refers to an intermediate point of known elevation in a level circuit.

TWENTY-FOUR-MILE TRACTS - The largest unit in the rectangular system of surveys. Each area controlled by a principal meridian and a base line is divided into tracts by means of standard parallels or correction lines (true parallels of latitude) located at intervals of 24 miles to the north and south of the base line and by means of guide meridians (true meridians) spaced at intervals of 24 miles east and west of the principal meridian. Because of the convergence of the meridians, the distance between the guide meridians is 24 miles only at the starting points; at all other points, the distance is less by the amount of the convergence. Twenty-four-mile tracts were first specified in the 1881 Manual of Surveying Instructions.

U

UNAPPROPRIATED PUBLIC LANDS - See VACANT AND UNAPPROPRIATED PUBLIC DOMAIN LANDS.

UNAPPROVED SURVEY - A cadastral survey which has not, for whatever reason, reached the status of an accepted survey. See ACCEPTED SURVEY.

UINTAH SPECIAL MERIDIAN - The Uintah Meridian governs surveys in a small part of Utah. It was adopted in 1875.

UMIAT MERIDIAN - The principal meridian governing surveys in the northern part of Alaska. It was adopted in 1956.

UNITED STATES CODE - A compilation, under 50 subjects, or titles, of the general and permanent laws of the United States in force as of an indicated date. Most of the statutes governing the operations of the Bureau of Land Management appear in Title 43, "Public Lands," and Title 30, "Mineral Lands and Mining." Many laws relating to Alaska are found in Title 48, "Territories and Insular Possessions."

UNITED STATES COURTS OF APPEALS - Sometimes U.S. Circuit Courts of Appeals. The middle level of the federal judicial hierarchy. There is one such court in each of the 11 judicial circuits into which the United States is divided. As the name indicates, the jurisdiction is exclusively appellate; they have no original jurisdiction. In cases where a court of appeals has held a State statute invalid because of repugnancy to the Constitution or a law or treaty of the United States, an appeal may be taken to the Supreme Court. In all other cases its decisions are final except as they may be reviewed by the Supreme Court at the latter's discretion. See UNITED STATES DISTRICT COURTS and SUPREME COURT OF THE UNITED STATES.

UNITED STATES DISTRICT COURTS - The lowest level of the federal judicial hierarchy, whose jurisdiction may include a whole state or only part of it. No "district" crosses state boundaries. These are the only Federal courts where juries are used. They have no appellate jurisdiction; District courts have original jurisdiction of civil cases at common law, in equity, in admiralty, in the enforcement of Acts of Congress and of all prosecutions for crime recognized under the authority of the United States. See UNITED STATES COURTS OF APPEALS and SUPREME COURT OF THE UNITED STATES.

UNITED STATES LOCATION MONUMENT - When a U.S. Survey or a Mineral Survey is situated in an area where there are no corners of the public land surveys and no other monuments within two miles, a "location monument" is established for permanent reference of the surveys in that vicinity. Similar monuments were formerly designated United States Mineral Monuments.

UNITED STATES MINERAL MONUMENT - A term formerly used. See UNITED STATES LOCATION MONUMENT.

UNITED STATES STATUTES AT LARGE - Laws passed during each session of Congress are, at the end of the session, printed in a bound volume entitled United States Statutes at Large. The public laws and private laws are printed in separate sections. Within each section the laws are arranged chronologically by the date of their approval. When cited, the volume number should precede the abbreviation, Stat., and the page of the volume on which the statute appears should follow it. For example, 17 Stat.91 is a citation to a statute which may be found on page 91 of Volume 17 of the Statutes at Large.

UNITED STATES SUPERVISOR OF SURVEYS - An officer in charge of the survey of the public lands from 1910 until 1946. See SURVEYOR GENERAL, CADASTRAL ENGINEERING STAFF OFFICER and CHIEF, DIVISION OF CADASTRAL SURVEYS.

UNIVERSAL TRANSVERSE MERCATOR PROJECTION - A special case of the transverse Mercator projection. Abbreviated as the UTM grid, it consists of 60 north-south zones, each 6° wide in longitude.

UNORGANIZED MINING DISTRICT - Where land office forms, or other forms, have a space to indicate "Mining District" and there is, in fact, no organized mining

district, the form is completed by writing the words, "unorganized mining district." See ORGANIZED MINING DISTRICT and MINERAL DISTRICT.

UNPERFECTED ENTRY - See ENTRY UNPERFECTED.

UNRECORDED DEED - A conveyance of title not registered or recorded according to state statutes.

UNRESERVED PUBLIC LANDS - Public lands which have not been withdrawn or reserved for general purposes. The public lands which are not affected by a general order of withdrawal, by a mineral withdrawal for classification, or by inclusion within a grazing district under the Taylor Grazing Act, are considered unreserved public lands since they are subject to classification and disposal.

UNSURVEYED LANDS - Lands not yet surveyed. Fractional section surveys, for example, leave unsurveyed land within a section. The land is known to exist, but the survey has either not yet been authorized or has not yet, for whatever reason, been completed. See COMPLETION SURVEY.

UPLANDS - 1) Land situated above ordinary highwater. 2) Land situated above riparian land or land adjacent to riparian areas but remote from the body of water and having no riparian rights. See ORDINARY HIGH WATER.

URBAN DISTRICTS - Thickly settled areas (whether in cities or suburbs) or areas where congested traffic often occurs. A highway, even though in the country, on which the traffic is often very heavy, is considered to be urban.

URBAN SUBDIVISION - A division of property into two or more parcels, usually with street dedications, performed and recorded by a surveyor according to state law and local regulations.

USE PLAT - A copy of the master title plat and any supplemental master title plats of a township. Use plats show, in addition to the status shown on the master title plat, information concerning use of the lands, such as applications, leases and permits. See MASTER TITLE PLAT and SUPPLEMENTAL MASTER TITLE PLAT.

U.S. SURVEY - A metes and bounds survey executed to comply with one of various regulations for entry of Public Lands.

USQUE AD FILUM AQUAE (OR VIAE) - Up to the middle of the stream (or road).

UTE MERIDIAN - The principal meridian governing surveys in a small area in Colorado; it was adopted in 1880.

V

VACANT AND UNAPPROPRIATED PUBLIC DOMAIN LANDS - Public domain lands which have never left Federal ownership and have not been reserved, withdrawn, dedicated or set aside for a specific purpose. These lands, some 450 million acres, are mostly in the 11 Western States and Alaska. The vacant and unappropriated public domain is administered by the Bureau of Land Management.

VALUABLE MINERAL - See MINERAL, VALUABLE.

VARA - A spanish unit of measurement of various lengths.

VARIATION - See MAGNETIC VARIATION.

VEIN - In mining law, a continuous body of mineral or mineralized rock, filling a seam or fissure in the earth's crust, within defined boundaries in the general mass of the mountain (boundaries which clearly separate it from the neighboring rock), and having a general character of continuity in the direction of its length. A requirement that a miner shall locate his claim "along the vein" means along the out-crop or course of the apex and not along the strike. "Lode," "ledge," and "vein" are synonymous in mining law as well as in common usage.

VEIN, DISCOVERY - In mining law, that vein which served as a basis of the discovery and location of a mining claim.

VERSUS - A latin word meaning against. In the title of a cause of action, the name of the plaintiff is put first, followed by the word "versus," then the defendant's name. The word is commonly abbreviated "vs." or "v."

VIS FLUMINIS - In the civil law, the force of a river; the force exerted by a stream or current; waterpower.

W

WAGON ROAD GRANT - A grant of public lands made to a State to aid in the construction of military wagon roads.

WARRANTY - A promise that a statement is true. In conveyancing, a warranty deed conveys fee title (to the land described) to the grantee and in addition guarantees the grantor will make good the title if it is found wanting. See **DEED, BARGAIN AND SALE** and **PATENT**.

WASHINGTON MERIDIAN - 1) The Act of September 28, 1850 (9 Stat. 515), provided for the adoption of the meridian of the observatory at Washington, which passes through the old Naval Observatory at 24th Street and Constitution Avenue, N.W., Washington, D.C., as the American Meridian for all astronomic purposes. The meridian of Greenwich was, under this act, adopted for all nautical purposes. The act was repealed August 22, 1912 (37 Stat. 342). During the nearly 62 years the act was in force, the meridional boundaries of the Territories and States of Arizona, Colorado, Dakota, Idaho, Montana, Nevada and Wyoming and the States of Kansas, Nebraska, New Mexico and Utah were referred to the Washington Meridian, which is 77° 03' 02".3 west of Greenwich, according to Geological Survey Bulletin 1212. Aaron L. Shalowitz, LL.M., Coast and Geodetic Survey, says it is 77° 03' 06".276. 2) The principal meridian, adopted in 1803, which governs surveys in the southwestern part of Mississippi is also named the Washington Meridian.

WATERS OF THE UNITED STATES - All waters within the United States which are navigable for the purpose of commerce, or whose navigation successfully aids commerce.

WAY - A road, street or other passage. Technically, a right of passage over land.

WAYLEAVE - A right of way over or through land for the carriage of minerals from a mine or quarry. It is an easement of the class called "rights of way," and is generally created by express grant or reservation.

62

WEEKS LAW LANDS - Federal acquired lands within National Forest boundaries acquired under 36 Stat. 961, the weeks law.

WHARFING OUT, RIGHT OF - A right to the exclusive use of submerged lands as by the affixing thereto or the establishment thereon of a permanent structure to some point within a navigable body of water. It presupposes exclusive use and to that extent it may interfere with fishing or navigation.

WHARF PERMIT - A permit which authorizes the use of a shore-space reserve for wharfage purposes.

WILDLIFE REFUGE - A reservation for the protection of wildlife.

WILDLIFE REFUGE EXCHANGE - An exchange whereby the Federal Government receives title to lands within a wildlife refuge.

WILLAMETTE MERIDIAN - The principal meridian governing surveys in Oregon and Washington; it was adopted in 1851.

WIND RIVER MERIDIAN - The principal meridian governing surveys in a small area in Wyoming; it was adopted in 1875.

WINZE - In mining, a vertical or steeply inclined passageway driven to connect a mine working with another.

WITHDRAWAL - An action which restricts the disposition of public lands and which holds them for specific public purposes; also, public lands which have been dedicated to public purposes. See **WITHDRAWAL, GENERAL ORDERS OF; RESERVATION**.

WITHDRAWAL, GENERAL ORDERS OF - Under Executive Orders Numbers 6910 (Nov. 26, 1934), and 6964 (Feb. 5, 1935), known as the "General Orders of Withdrawal," all vacant public lands in Alabama, Arizona, Arkansas,

California, Colorado, Florida, Idaho, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Utah, Washington, Wisconsin, and Wyoming were withdrawn for classification.

WITHIN LIMITS - At less than allowable linear and angular errors of closure as set forth in the Manual of Surveying Instructions. Also within rectangular limits.

WITNESS - A person who testifies as to what he has observed. See **EXPERT WITNESS**.

WITNESS CORNER - A witness corner is a monumented point usually on a line of a survey and near a corner. It is established only in situations where it is impracticable to occupy the site of a corner. Usually only one witness corner is established, and it should be located upon one of the lines leading to a corner if a secure place within a distance of 10 chains is available. If there is no place to be found on a surveyed line within that distance, a witness corner may be located in any direction within a distance of 5 chains. (BLM 1973, paragraph 4-15.)

WITNESS POINT - "A witness point is a monumented station on a line of the survey that is used to perpetuate an important location more or less remote from and without special relation to any regular corner." (BLM 1973, paragraph 4-17).

WITNESS TREE - According to the General Instructions of 1846, and other instructions prior to that year, "Witness trees are signalized and marked as [bearing trees], but the course and distance to them, as well as the small chop, are omitted." Later, all trees used as corner accessories were marked as bearing trees, and the distance and bearing from the corner was recorded. The term "Witness tree" became obsolete. See **BEARING TREE**.

WRIT OF ERROR - A process of common law origin, it is a precept issued in writing by an appellate court to a lower court for supposed error in law apparent on record. A writ of error removes nothing to the higher court for re-examination except the law. See **APPEAL**.

X - Y - Z

X - The departure or distance along the east-west axis in a coordinate system.

Y - The latitude or distance along the north-south axis in a coordinate system.

ZONE - The unit of division in State Plane Coordinate Systems created where state boundaries extend beyond limits imposed in the design of the projection system. Where the scale error between a geodetic distance and its grid representation exceeds 1 in 10,000 a state was usually divided into two or more zones. A new origin is used for each zone. See DANGER ZONE.